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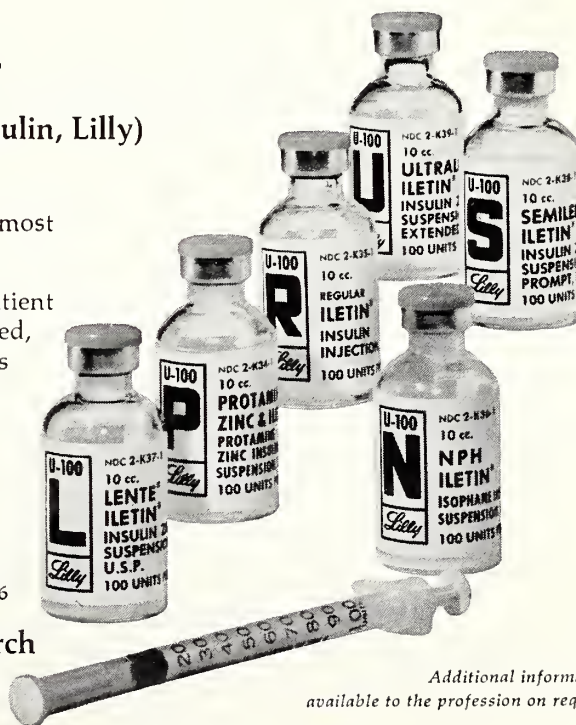
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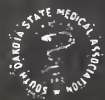
vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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## CHRONIC COR PULMONALE

Second article in series

by

S. Sochocky, M.D., F.C.C.P.\*

### Incidence:

From various causes of cor pulmonale chronic obstructive pulmonary disease plays the most important part. Chronic obstructive pulmonary disease is a group of disorders which includes pulmonary emphysema, bronchial asthma, chronic bronchitis, bronchiectasis, and cystic disease of lungs. According to various authors these diseases kill between 25,000 and 30,000 Americans a year and produce significant disability in millions more. In countries which have a high incidence of infection of bronchial tree, cor pulmonale is a common type of heart disease. According to Robin<sup>1</sup> et al. in England, particularly in Sheffield Regional Hospital, cor pulmonale accounts for up to one fourth of the patients hospitalized for heart failure. In 1959 in Sheffield Hospital Area, cor pulmonale represented 30-40 percent of all clinical cases of heart failure out of 487 patients with cardiac failure. This fatality rate was similar to that of coronary heart disease and rheumatic heart disease. Most patients were aged 45 or older and the incidence of cor pulmonale was 3.5 times higher in males than in females.

The leading cause of cor pulmonale still is pulmonary emphysema and bronchitis. If you consider incidence of chronic obstructive pulmonary disease in population, cor pulmonale will be found more frequently. In the United States cor pulmonale is frequently found with respiratory diseases in Arizona and Cleveland, Ohio. According to Robin<sup>1</sup> et al. in Cleveland, over the years 1941-1947, using the

postmortem criterion of right ventricular wall thickness, 52 cases of cor pulmonale were found among 743 cases of autopsied patients with cardiac disease, an incidence of 7.1 percent.

### Clinical Manifestations:

Clinical manifestations of cor pulmonale may be divided into two groups; those due to primary pulmonary disease and those resulting from a disorder of cardiac function. The first step in diagnosis of cor pulmonale is the necessity to find out which pulmonary disease is responsible for cardiac involvement.

### History:

Cor pulmonale due to chronic obstructive pulmonary disease is the most common cause. Approximately 70-75 percent of patients with cor pulmonale in the United States is due to chronic obstructive pulmonary disease. The patient with chronic obstructive pulmonary disease will give a history of increasing shortness of breath for years, and an increase in cough and sputum. In the beginning these symptoms are present during the winter months only but later, as disease progresses, they are present all the year round. The shortness of breath is more pronounced on exertion. Chest pain may also occur on exertion but relieved by rest; is more often found in patient with pulmonary hypertension and may simulate myocardial infarction.

### Physical Examination:

Physical examination will reveal a patient with

\*Address: Dept. of General Medicine, Veterans Administration Center, Sioux Falls, S.D.



barrel shaped chest, poor respiratory movements and hyperresonant percussion note. Breath sounds are diminished, rhonchi and crepitations can be heard on auscultation.

Firstly in diagnosis is to find whether there is clinical evidence of right ventricular hypertrophy with or without right side congestive heart failure. Physical examination will reveal heart sounds distant, apex beat not palpable and second pulmonary sound may be accentuated. The emphysematous lung surrounds the heart so right ventricle is insulated from chest wall and right ventricular hypertrophy in its pure form is diagnosed on physical examination only in a small number of patients. However, in patient with chronic pulmonary disease with signs of right congestive heart failure as distended neck veins, crepitations in lung bases, enlarged tender liver, hepatojugular reflex, ascites, swelling of legs or feet; if present diagnosis of cor pulmonale is not difficult. Palpation may reveal a prominent left parasternal heave. The important clinical evidence of cor pulmonale is right sided diastolic gallops, especially an early diastolic and mid-diastolic right sided gallop which occurs simultaneously with third heart sound. An early diastolic pulmonic ejection click is also an important sign of right ventricular disease. There may be a systolic murmur which increases on inspiration and best heard in parasternal region, suggests tricuspid insufficiency due to right ventricular dilatation. Hypercapnia may produce wide pulse pressure and an increased peripheral arterial pulsation; rising pressure in cerebrospinal fluid may cause headache, drowsiness and papilledema. The pulse rate is usually regular and atrial and ventricular arrhythmias may occur. The most common arrhythmias in cor pulmonale are atrial tachycardia, paroxysmal atrial tachycardia with block, atrial fibrillation, wandering pacemaker; but ventricular tachycardia and ventricular fibrillation are rather rare. The incidence of arrhythmias in cor pulmonale varies according to various authors from 4.5-38.3 percent and according to Suppa<sup>2</sup> et al. is on average 9.4 percent.

#### Laboratory Data:

Pulmonary function tests do not help in diagnosis of right ventricular hypertrophy or right ventricular failure, however, they are important to differentiate between the obstructive and restrictive group of pulmonary diseases producing cor pulmonale. In the obstructive group of pulmonary diseases chronic bronchitis, pulmonary emphysema, bronchial asthma, bronchiectasis, cystic disease of lungs may be present, alone or in combination. The restrictive group in-

cludes diseases involving pulmonary parenchyma, pleura, respiratory cage and respiratory center. There are several pulmonary function tests which help to diagnose between obstructive and restrictive pulmonary disease and between forms of obstructive and restrictive pulmonary disease. The total lung capacity is normal or increased in obstructive pulmonary disease but diminished in restrictive pulmonary disease. A forced expiratory volume 1 second ( $FEV_1$ ), less than 50 percent of vital capacity in obstructive, normal or slightly diminished in restrictive pulmonary disease. Forced expiratory volume 3 seconds ( $FEV_3$ ), less than 70 percent of vital capacity in obstructive, normal or slightly diminished in restrictive pulmonary disease. Maximum midexpiratory flow rate (MMEFR), markedly diminished in obstructive, normal or slightly diminished in restrictive pulmonary disease. Pulmonary function tests after bronchial dilators show significant improvement in obstructive group but no effect in restrictive group. Vital capacity is helpful in following patients with restrictive lung disease and congestive heart failure and  $FEV_1$  and MMFR are helpful in following patients with airway obstruction. In diseases causing alveolar-capillary block, e.g. sarcoidosis, scleroderma, diffusing capacity will be low. Diffusing capacity is also low in disease causing a destruction of alveoli such as in pulmonary emphysema, bullae and cysts. Blood gas analysis may be helpful especially in patients with severe shortness of breath and extensive crepitations in both lung fields. Arterial blood gas analysis — pH —  $PO_2$  —  $PCO_2$  — may be of help.

#### Radiological Findings:

Almost any chest disease responsible for cor pulmonale can be diagnosed by routine radiological examination. Chest film — posterior anterior and lateral views of chest should be taken as routine. In cases with chronic bronchitis without emphysema there may be increased bronchovascular markings chiefly due to dilation of pulmonary vessels. In emphysema without chronic bronchitis an increase in radiotranslucency of lungs usually present. Thoracic cage is enlarged in posterior anterior and lateral films. There is a flattening and lowering of both hemidiaphragms and normal diaphragmatic movements are almost absent on fluoroscopy. The heart shadow is usually narrow, vertical unless heart is involved. Cor pulmonale is difficult to diagnose on radiological examination until cardiac failure has developed. The enlargement of right ventricle takes place anteriorly towards sternum so cannot be diagnosed on posterior anterior films, lateral and oblique films are essential. When right ventricle enlarges it

produces clockwise rotation of the heart and left ventricle is moved posteriorly. When right ventricle is enlarged it may form left border of heart, even cardiac apex may be formed by right ventricle. The radiological signs in right ventricular failure may show dilatation of azygos vein, widening of superior vena cava and pleural effusion may be present on right side. Fluoroscopy will not show right ventricular hypertrophy unless right ventricle is also dilated.

The right side of heart, especially right ventricle is chiefly involved in cor pulmonale, but left ventricle failure may also complicate chronic lung disease. B. Sheila Rao<sup>3</sup> et al. described 8 patients with chronic obstructive pulmonary disease and cor pulmonale in whom left ventricular failure developed. None of these patients had a history of systemic hypertension, coronary heart disease, valvular disease or other causes of left ventricular failure. The change in character or of severity of shortness of breath was found as one of the first indications of left ventricular failure. Chest x-ray revealed left ventricular enlargement and electrocardiogram showed left ventricular hypertrophy or left ventricular conduction defects. Arterial hypoxemia, hypercapnia, high cardiac output, and infection were most likely contributing factors to left ventricular failure. According to these authors, right ventricular failure and left ventricular failure may develop secondary to chronic lung disease.

### Electrocardiographic Findings:

Various authors give different criteria for right ventricular hypertrophy. According to Sokolow and Lyon<sup>4</sup> the important electrocardiographic findings are one or more of the following — R wave in  $V_1$  7 mm or more, S wave in  $V_1$  less than 2 mm, S wave in  $V_5$  and  $V_6$  7 mm or more, R wave in  $V_5$  and  $V_6$  less than 5 mm; sum of R wave in  $V_1$  plus S wave in  $V_5$  and  $V_6$  10.5 mm or more, R/S ratio in  $V_5$  and  $V_6$  1 or less than 1. Standard leads show right axis deviation  $110^\circ$  or more and tall R waves in AVR more than 5 mm. Depression of ST waves and inversion of T wave where R equals or is bigger than 15 mm in AVL and AVF. Sokolow and Lyon<sup>4</sup> gave the highest number of positive results suggesting right ventricular hypertrophy in electrocardiogram, also the highest number of false positives.

Roman<sup>5</sup> et al. suggested the following criteria for right ventricular hypertrophy — right axis deviation (to the right of plus  $110^\circ$ ), an R/S amplitude ratio in  $V_1$  greater than 1, an R/S amplitude ratio in  $V_6$  equal to or less than 1. The finding of a predominant, late R wave in AVR, in a heart with a vertical axis, has also been regarded as a reliable index of right

ventricular hypertrophy.

Goldberger's<sup>6</sup> criteria for right ventricular hypertrophy is as follows — tall R wave in  $V_1$  and  $V_2$ , (R is three times or more than S wave), marked clockwise rotation of heart, incomplete or complete heart block.

According to Robin<sup>1</sup> et al. electrocardiographic manifestations of cor pulmonale are P waves peaked in leads 2, 3 and AVF, QRS complex small R waves,  $S_1, S_2, S_1 S_2 S_3$  pattern, slurred S waves in leads  $V_5$  and  $V_6$ , R/S ratio  $<1$  in lead  $V_6$ , prominent R waves in leads  $V_1$  and  $V_2$ , R/S ratio in lead  $V_1 >1$ , right bundle branch block (complete or incomplete), right axis deviation, clockwise rotation. ST segment depression and T wave inversion, especially in anterior precordial leads.

According to Friedberg<sup>7</sup> electrocardiographic changes of right ventricular hypertrophy must be differentiated from right axis deviation due to changes in position without hypertrophy, right bundle branch block, certain cases of myocardial infarction and from type of Wolff-Parkinson-White syndrome.

As far as diagnosis of cor pulmonale either radiological or electrocardiographic findings may be of help in some cases these findings are not conclusive. The most convincing evidence of right ventricular hypertrophy is found in patients with severe pulmonary hypertension as in diffuse obliteration of pulmonary vascular disease. On a few occasions clinical manifestations of pulmonary disease may reveal existence of primary heart disease. The recurring attacks of cardiac asthma may indicate presence of left ventricular failure, spells of coughing up blood may indicate suspicion of mitral stenosis.

Relationship between chronic pulmonary disease and coronary artery disease is rather difficult to assess as statistics vary. According to various authors the incidence of coronary artery disease in patients with chronic pulmonary disease may be either high or low. According to Bhargava and Woolf<sup>8</sup> from 10 cases with chronic pulmonary disease only 4 showed evidence of coronary artery disease or infarction at autopsy, while in remaining 6 cases coronary arteries were normal. According to Medvei and Oswald<sup>9</sup> who followed patients with chronic bronchitis for 5 years 60 percent of these patients died from respiratory causes and 17 percent from ischemic heart disease. Rees<sup>10</sup> et al. studied 212 miners the majority aged 40 or above suffering from chronic pulmonary disease which was confirmed on autopsy; out of these, 86 cases (40.6 percent), showed evidence of coronary artery disease.

In our series of 10 patients there were 6 males and 4 females aged over 40 with chronic pulmonary



disease. Postmortem examination of these patients showed no evidence of coronary heart disease in 7, in 3 there was evidence of rather severe coronary heart disease. Also co-existence of these two diseases as seen in middle aged and elderly persons may be simple coincidence.

The electrocardiographic changes ST — T which suggest coronary heart disease, myocardial ischemia, "non specific causes," may be present in patients with chronic pulmonary disease. However, hypoxemia and hypercapnia may also cause these changes.

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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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**C. F. J. Blunck, M.D., Allan De-wald, M.D., and Paul Good, M.D.,** Rapid City, participated in a seminar for x-ray technicians sponsored by the Rapid City Regional Hospital.

\* \* \* \*

**Alexander Adajar, M.D.** has opened an office for the practice of medicine in Bowdle. Dr. Adajar is a graduate of St. Thomas University Medical School, the Philippines. He served one year of internship at the Norwegian-American Hospital, Chicago; one year of surgical residency at the American Hospital in Chicago; and one year of general practice residency at Grant Hospital in Chicago.

\* \* \* \*

"Heart Disease: A South Dakota Perspective" was aired on South Dakota TV stations following a 90 minute national program on heart disease. Physicians appearing on the local program included **H. Streeter Shining, M.D.,** Rapid City; **Warren Jones, M.D.,** Sioux Falls; **T. J. Wrage, M.D.,** Watertown; **Charles Roberts, M.D.,** Brookings; **W. R. Taylor, M.D.,** Aberdeen; and **Joseph Welty, Ph.D.,** Vermillion.

**Jay Hubner, M.D.** has joined the staff of the Medical Clinic in Yankton in the practice of internal medicine. He is a graduate of the University of South Dakota Medical School and Southwestern Medical School in Dallas. Dr. Hubner interned at the Veterans Administration Hospital in Dallas and took his residency training in internal medicine at Southwestern Medical School. He is the son of Dr. and Mrs. R. F. Hubner of Yankton.

**Robert E. Van Demark, M.D.,** Sioux Falls, was recently elected to membership in the American Association for Hand Surgery.

\* \* \* \*

The Brookings Clinic announced the association of **Steffen Helgaas, M.D.,** a family physician. Dr. Helgaas is a graduate of Augustana College, Sioux Falls, and the University of Minnesota Medical School, and he interned at St. Paul Ramsey Hospital.

\* \* \* \*

The following South Dakota physicians have been named Fellows of the American Academy of Family Physicians: **Clark F. Johnson, M.D.,** Yankton; **B. T. Otey, M.D.,** Flandreau; **J. P. McCann, M.D.,** Parkston; **B. R. Skogmo, M.D.,** Mitchell; **A. P. Peeke, M.D.,** Volga; **Ernest J. Hofer, M.D.,** Freeman; and **T. R. Jacobson, M.D.,** Hot Springs.

\* \* \* \*

**Richard Porter, M.D.,** Yankton, headed the Diabetes Detection Drive in the Yankton area. Testing stations were established and free tests were available to the community.

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# P R E S I D E N T ' S P A G E

At the time these comments will be published in the *SOUTH DAKOTA JOURNAL OF MEDICINE*, I trust the degree-granting medical school for South Dakota will have been given legislative approval.

The vital impact that a degree-granting medical school will have on medical care service in South Dakota should be stressed. The degree-granting medical school proposal, I believe, can offer effective relief to many immediate health care problems, and have a vital impact on long-range health care services for our state. Whatever system of health care delivery evolves, whatever categories of manpower are needed, whatever continuing education programs are needed, whatever curricula for allied health personnel are needed, the degree-granting medical school can be the catalyst to support, facilitate, or innovate the programs needed.

It is unreasonable, however, to attempt to predict the pattern of health care needs and delivery of health services. The major factors of health manpower, health services, and cost effectiveness are completely interdependent. The health professionals as providers of services, the government agencies as administrators of public interests, needs, and funding; the hospitals and nursing homes as providers of acute and chronic health care; the degree-granting medical school as a professional and continuing education and research source have vital contributions to make. The development of concepts, policy, and process of implementation will be more expeditious if those affected by the decisions participate in developing and improving the policies, and, at an early stage, give consideration to changes in one area, as they may have consequences in other areas.


I hope the South Dakota State Medical Association can obtain the acceptance and participation of a coordinating committee on health planning. Suggested participants are the South Dakota State Medical Association, the School of Medicine, the South Dakota Hospital Association, the South Dakota State Health Department, and the South Dakota State Planning Bureau. Their meetings should be on a regular and ongoing basis, and their charge to consider all areas of health care and health planning for South Dakota. This cooperative study and "think tank" approach, directed to immediate and long-term planning, is timely and offers much potential benefit.

Surely agencies and organizations responsible for the health care of all our people will wish to consult and study on a regular and ongoing format. There are many responsible and competent people in all the groups mentioned, and they do have individual and joint responsibility to study and plan for South Dakota's health needs. The failure of these groups to openly and candidly address health care can only delay needed progress and benefits to our citizens. Each of these groups has much expertise, but only by total cooperative interchange of this expertise can we arrive at the most intelligent and efficient programs.

I do hope the participants will enthusiastically participate in this Coordinating Committee on Health Planning. The potential benefits are exciting, and I believe we can together be more effective. I sincerely hope we can grasp the opportunity to plan and suggest effective implementation of desirable health programs for all South Dakota people.

Sincerely,  
T. H. Sattler, M.D.  
President, South Dakota  
State Medical Association





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**Warnings:** Use with caution in young children, because of variable response, and with extreme caution in patients with cirrhosis and other advanced hepatic disease or abnormal liver function tests, because of possible hepatic coma. Diphenoxylate HCl may potentiate the action of barbiturates, tranquilizers and alcohol. In theory, the concurrent use with monoamine oxidase inhibitors could precipitate hypertensive crisis.

**Usage in pregnancy:** Weigh the potential benefits against possible risks before using during pregnancy, lactation or in women of childbearing age. Diphenoxylate HCl and atropine are secreted in the breast milk of nursing mothers.

**Precautions:** Addiction (dependency) to diphenoxylate HCl is theoretically possible at high dosage. Do not exceed recommended dosages. Administer with caution to patients receiving addicting drugs or known to be addiction prone or having a history of drug abuse. The subtherapeutic amount of atropine is added to discourage deliberate overdosage; strictly observe contraindications, warnings and precautions for atropine; use with caution in children since signs of atropinism may occur even with the recommended dosage.

**Adverse reactions:** Atropine effects include dryness of skin and mucous membranes, flushing and urinary retention. Other side effects with Lomotil include nausea, sedation, vomiting, swelling of the gums, abdominal discomfort, respiratory depression, numbness of the extremities, headache, dizziness, depression, malaise, drowsiness, coma, lethargy, anorexia, restlessness, euphoria, pruritus, angioneurotic edema, giant urticaria and paralytic ileus.

**Dosage and administration:** Lomotil is contraindicated in children less than 2 years old. Use only Lomotil liquid for children 2 to 12 years old. For ages 2 to 5 years, 4 ml. (2 mg.) t.i.d.; 5 to 8 years, 4 ml. (2 mg.) q.i.d.; 8 to 12 years, 4 ml. (2 mg.) 5 times daily; adults, two tablets (5 mg.) t.i.d. to two tablets (5 mg.) q.i.d. or two regular teaspoonfuls (10 ml., 5 mg.) q.i.d. Maintenance dosage may be as low as one fourth of the initial dosage. Make downward dosage adjustment as soon as initial symptoms are controlled.

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**Dosage forms:** Tablets, 2.5 mg. of diphenoxylate HCl with 0.025 mg. of atropine sulfate. Liquid, 2.5 mg. of diphenoxylate HCl and 0.025 mg. of atropine sulfate per 5 ml. A plastic dropper calibrated in increments of 1/2 ml. (total capacity, 2 ml.) accompanies each 2-oz. bottle of Lomotil liquid.

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## AN EXTERNSHIP AT ROSEBUD

by  
William Michels\*

The doctor and I hurriedly walked across the dew strewn lawn toward the hospital at 2 a.m. I had only been at Rosebud Indian Hospital for about three hours. I tried to wake up as he instructed me about scrubbing and gowning so I could observe the birth of the Indian woman's child. When I was finally able to join him in the delivery room, I heard the assisting nurse, rather panic stricken, exclaim, "Fetal distress! Heart rate 64 and pulse weak!" My knees sagged as I observed the gush of blood from the episiotomy. Dizziness forced me to sit down and lower my head. However, I did hear the baby's first cries somewhere above me which is exciting to a first year medical student.

This is the second summer that medical students have worked at the Rosebud Public Health Service Hospital. The Hospital has 50 beds and serves about 100 outpatients a day from the 7,000 Sioux on the Reservation.

During the summer I stayed close to one of the five physicians (four are pre-residency). There is much for a medical student to see. Each day there is, of course, hospital rounds and general clinic. Also, there are the weekly clinics for diabetes, pre and post-op surgery cases, prenatal mothers, and well-baby check-ups. About once every three weeks a specialist, such as an ophthalmologist or orthopedic surgeon, will visit the hospital. There were also about 40 births during the summer which the students could observe. Presently, all other surgery is contracted to nearby hospitals (50-100 miles) because of a shortage of operating room nurses.

In addition to the activities, each doctor is on call

(so is the student) for 24 hours about every fifth day. Working the next day after being up all night was a new experience for me. The following patients presented themselves to the hospital from 6 p.m. to 8 a.m. one night when I was on call: A pretty 17 year old Indian girl came in with an anxiety attack after a huge family row. There were the usual half dozen little children with draining ears from otitis media. Two young boys came in with foot lacerations from stepping on broken bottles at the local swimming hole, and a badly lacerated teenage boy having been beaten with a tire iron. Two women with severe gallbladder attacks (very common among Indians) arrived about the same time. A severely beaten woman was brought in unconscious by her neighbor, and minutes later the ambulance arrived with an older Indian man with a suspected coronary. A teenage girl with epistaxis had to wait while a man in severe distress from an ulcer was helped. I observed some nifty suturing during the repair of a gaping dog bite. The early morning was capped off with the 5 a.m. delivery of a healthy Indian boy. I collapsed!

In order to help in general clinic and on the floor I was instructed in how to do a history and physical. It took me all day to do the first one. Also, under supervision, I got to sew up some simple lacerations, remove casts, develop x-rays, debride wounds, assist in obstetrical deliveries and run some lab work.

The medical students were also busy with a pulmonary research project financed through the generous donation of a South Dakota physician. Many of the abnormal cases from the 150 studies performed last summer were retested this summer in order to develop trends. The results from last summer were presented this April at the Annual Clinical Con-

\*Sophomore Student, University of South Dakota Medical School, Vermillion, S.D.



ference of the U.S. Public Health Service in Phoenix, Arizona.

The students also made a movie this summer called, "Crisis in Health Care at Rosebud." The 15-20 minute color film was funded by the South Dakota Committee on the Humanities in order to communicate to interested groups the quality of health care on the Rosebud Reservation. Craig Shoemaker, another USD medical student, did an excellent job writing the script and scenarios for the movie. He then had the challenging job of obtaining approval of the script from the Rosebud Sioux Tribe, the Public Health Service, and the Committee on Humanities. The film will be shown on educational TV later this year.

The future of the Rosebud Hospital seems unclear due to the anticipated loss of 80 percent of the physicians within a year and the end of the doctor draft. Funds have become very scarce in the past few years so needed equipment has not been purchased. Even though the hospital is understaffed and lacking in many facilities, the remaining staff has performed extremely well under the most trying circumstances. There seems to be a lack of long-range planning in the PHS, at least at the present time.

Many Indian families are torn apart because of the transition from the old to the new way of life. One of the most positive steps I saw being taken

to help needy Indian children was a home for boys run by Bob Witthoeft, a Lutheran minister. In three years "Father Bob" had developed The Rosebud House of Friendship, a home for 15 boys. The home in St. Francis, 8 miles from Rosebud, is financed by Bob's meager salary and donations.

Because of this summer's medically oriented socioeconomic experience, I plan to become more active in some of the other projects the medical students have organized in Vermillion. One of the best, I feel, is the South Dakota Health Coalition. The SDHC encourages better statewide communication among all members of the health team via seminars and newsletters. SDHC also presents, upon request, educational lectures about venereal disease to high schools across the state. Another program run by medical students is the four day seminars presented each year on subjects such as sex education, alcoholism, dealing with suicide, death and dying, etc.

If a degree-granting medical school can be developed in South Dakota, it would make a lot of sense to have third and fourth year students rotate to Rosebud Hospital to observe the high level of pathology on the Reservation.

Working at the Rosebud Hospital has been a valuable experience for me. Coupled with my first year of academics, I feel South Dakota has offered me one of the best beginnings available in any medical school.

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## SEVENTEEN YEAR OLD MAN WITH MARKED EOSINOPHILIA AND BLUE TOES

Dennis Reis, M.D.\*

*Resident in Family Practice-Discusser*

John F. Barlow, M.D., FCAP\*\*

*Pathologist-Editor*

### CASE NO. 73-3027

This 17-year-old Caucasian male was admitted to Sioux Valley Hospital with a two-week history of blueness of the toes in the left foot and lateral two fingers of the left hand. The symptoms in the foot occurred right after the patient's father had stepped on his foot. However, four days previous the toes had been painful but not blue. The pain and blueness in the fingers came on approximately the same time as the problem with the foot. There was no drug history. The patient felt fine. There was no history of fatigability, fever, or cough. There was a possible history of mild dyspnea after exposure to oat dust approximately two weeks before admission. The patient had asthma on exposure to oat dust the previous fall.

**PHYSICAL EXAMINATION:** Temperature 99.4°F, pulse 100 per/min and regular, respirations 20 per/min, blood pressure 132 systolic and 82 diastolic, height 6'1" and weight 157 pounds. The patient was thin and in no apparent distress. Examination of the head and neck was unremarkable. There was mild generalized lymphadenopathy. The index and little fingers of the left hand and distal two-thirds of the toes of the left foot were cool and blue. The dorsalis pedis and posterior tibial pulses were decreased in the left foot. The femoral pulses were present bilaterally. Pulses were present in the right foot. Examination of the chest showed the lungs were clear to auscultation and percussion. The heart was of normal size with a regular rhythm and no murmurs. Examination of the abdomen revealed no tenderness, spasm, organs or masses. Neurologic examination was unremarkable.

**LABORATORY DATA:** Urinalysis, yellow, cloudy, specific gravity 1.022, pH 5.0 negative for protein, glucose, ketone bodies, bile, and hemoglobin, sediment 1-3 white cells/high power field, 0-2 red cells/high power field, globin was 15.0 gms/dl, red count 4.91 million/mm<sup>3</sup>, hematocrit 43 vols/dl, mean corpuscular hemoglobin 30 micromicrograms, mean corpuscular volume 88 cubic micro,

mean corpuscular hemoglobin concentration 34%. Total leukocyte count was 27,000/mm<sup>3</sup> with 13% neutrophils, 77% mature eosinophils, 10% normal lymphocytes. The red cells were normochromic and normocytic and the platelets appeared normal in number and morphology on the smear. Erythrocyte sedimentation rate was 7 mm/hr. The platelet count was 166,000/mm<sup>3</sup>. There were no LE cells noted on three lupus preparations, although clusters of eosinophils about clusters of platelets were noted. Total protein, calcium, inorganic phosphorus, glucose, blood urea nitrogen, uric acid, creatinine, total bilirubin, alkaline phosphatase, lactic dehydrogenase, serum glutamic oxaloacetic transaminase were within normal limits. A cholesterol was 125 mg/dl. An electrophoresis showed a total protein of 7.6 gms/dl, albumin 3.4 gms/dl, alpha-1 globulin 0.3 gms/dl, alpha-2 globulins 0.9 gms/dl, beta globulins 0.9 gm/dl, gamma globulins 2.1 gm/dl (The gamma globulin was elevated. The other values were within normal limits). The gamma globulin showed a broad polyclonal type of increase. Three stools for ova and parasites were negative. A lymph node biopsy of the right groin showed benign lymphoid hyperplasia. A fluorescent anti-nuclear antibody test (FANA) was negative. A tuberculin skin test showed no induration. Bone marrow examination showed marked mature eosinophilia. An electrocardiogram showed a minor intraventricular conduction defect with RSR prime in AVR and V1 compatible with right bundle block incomplete. X-rays of the chest, left ankle, left lower leg and left foot were unremarkable.

**HOSPITAL COURSE:** During the hospitalization the patient was afebrile but showed incipient gangrene of the left foot and also developed some bluish discoloration of two fingers on the right hand. These changes in both the foot and hand varied in intensity. A diagnostic procedure was performed.

**DR. RIES:** I think that this case was amply described by the poster for this meeting as a "Seventeen-year-old boy with eosinophilia and Blue Toes." I reviewed the literature after deciding this was a case of eosinophilia and found out that there was a problem in the literature. There are a lot of cases where there is eosinophilia but the classification of these eosinophilic syndromes is a semantic debate among numerous cases in the literature. One case was not even eosinophilia and was called pseudo-eosinophilia because on electron microscopy in this case the

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cells called eosinophils were really neutrophils. However, I am sure with our distinguished laboratory here we will not run into that problem. (laughter)

The eosinophil is one of the more mysterious leukocytes. It has crystalline granular inclusions which are protein in nature. These granules are poor in lysosomes. They are, therefore, thought not to be involved in the degradation of bacterial walls. They are rich in peroxidase which has antibacterial action. Eosinophils are less mobile and less able to phagocytize material than neutrophils. They are attracted by antigen-antibody complexes but only when antigen and antibody are in complex and not by either alone. They are able to phagocytize these antigen-antibody complexes. Eosinophils spend most of their time in the tissue and not in the blood stream. They are often found near the body interfaces such as near the lining in the gut or near the lining of the alveoli or in the skin. They are, therefore, felt to be protectors against some noxious aspects of our environment. Eosinophils can extrude their granules but the granules are often left intact in the cytoplasm whereas the granules of other leukocytes often are destroyed. In their reaction to bacteria, many feel that the extrusion of these granules rich in peroxidase leads to bacterial stasis or that eosinophils can prevent damage to tissue from antigen antibody complexes which have attracted complement or vasoactive substances.

Now let us discuss some of the causes of eosinophilia. There are a number of common causes of eosinophilia and approaching a patient with eosinophilia, one of the steps is to discontinue all drugs because of a possible allergic drug reaction. Pilocarpine, physostigmine, digitalis, and even insulin have been implicated as causes of high eosinophil counts. You must make an investigation in any possible history of allergies. This patient had some mild dyspnea after exposure to oat dust and a history of asthma on exposure to oat dust. This makes one suspicious but the history is not definite enough to confirm an allergic background in this patient. Asthma, hay-fever, food and drug allergies, angioneurotic edema can all be causes of eosinophilia. The eosinophilia in these cases is not usually as great as in our case today.

The third entity to consider is parasitic infestation. Most of the parasites can cause eosinophilia. More eosinophilic response is observed when the parasites invade the tissues than when they are confined to the gut. Most of the parasites confined to the gut do not cause much of a rise in eosinophils at all. Therefore, diseases such as hookworm, tapeworm and ascaris do not give rise to much of an eosino-

philia.

The next step is usually to go to skin and muscle biopsy. Skin diseases such as pemphigus, exfoliative dermatitis, and dermatitis herpetiformis can cause eosinophilia. The muscle biopsy is in search of possible arteritis. If all these are negative, the next step is to go to a lymph node biopsy which is to rule out a lymphoma such as Hodgkin's disease. Some of the pulmonary eosinophilic syndromes include Loeffler's Syndrome, farmer's lung, and chronic eosinophilic pneumonia. A couple of infections that I did not mention which may be associated with eosinophilia are scarlatina, tuberculosis, brucellosis, and fungus diseases. Malignant tumors may be associated with eosinophilia, especially those involving serosa and bone. Hodgkin's disease can cause rather marked eosinophilia in 15% of the cases. I have mentioned this. Polyarteritis nodosa can certainly cause marked eosinophilia as can a post-splenectomy state and a post-radiation state. The latter is somewhat questionable. Rheumatoid arthritis is rarely associated with eosinophilia. There is a condition called tropical eosinophilia which was particularly prevalent during the Korean war. Sarcoidosis can cause eosinophilia. There is even a case in which cigarette smoking was definitely shown to produce eosinophilia in a patient. And finally there is familial eosinophilia in which the eosinophil counts are usually not above 300/mm<sup>3</sup> and the patients are asymptomatic.

If studies for ova and parasites are negative and the biopsies are negative and the patient has any of the following symptoms: a substantial leukocytosis with greater than 20% eosinophilia, heart or pulmonary manifestations, transient neurologic manifestations, hepatosplenomegaly, and an unfavorable hospital course, then and only then, can you consider what Hardy and Anderson call the hypereosinophilic syndromes.

I want to discuss the hypereosinophilic syndromes which were actually described before Hardy and Anderson. Hildebrande described a similar condition in 1964. He described 38 cases of eosinophilia of unknown cause. He followed these for a four and one half year period and all had greater than a 10% eosinophilia. A number of these patients developed serious organic diseases including congestive heart failure, adenocarcinoma of the stomach and chronic myelogenous leukemia. These occurred in 15% of the patients. There was not much of a clinical description of each of the patients in the article. They did not find a correlation between the degree of eosinophilia and prognosis. The most important prognostic factors were the hemoglobin and the



erythrocyte sedimentation rate. When these two tests were within normal limits, the patient's course was usually benign.

The hypereosinophilic syndromes are broken down into several categories. The first is Loeffler's syndrome which is pulmonary eosinophilic infiltration. The course is self-limited and the patients are often asymptomatic although they may have fever, cough, and malaise. There are transient infiltrates on chest x-ray and on biopsy examination these patients have eosinophilic bronchitis. Occasionally granulomas and occasionally arteritis can be found. However, the cases are usually self limited and the patient has a good chance of recovery.

The second major group is called Loeffler's endocarditis or endocarditis parietalis fibroplastica. This process involves the heart and these patients have symptoms of congestive heart failure, sinus tachycardia, other arrhythmias and murmurs. They often have hepatosplenomegaly. The bone marrow shows eosinophilic hyperplasia. The chest x-ray may show pulmonary infiltrates. The ECG is abnormal but not diagnostic. At autopsy, the patients have cardiomegaly with endocardial fibrosis and mural thrombi. The lungs show chronic passive congestive and there is eosinophilic infiltration of other organs such as the liver and spleen.

The last hypereosinophilic syndrome has been called eosinophilic leukemia, but by many is considered to be a diffuse infiltrative eosinophilic disease and a member of the collagen diseases. This last has been put under close scrutiny recently and some feel that eosinophilic leukemia does not exist and others feel that all these syndromes should be called eosinophilic leukemia. These patients often have a mature eosinophilia and their prognosis is relatively good for leukemia and they do not usually die of a blast crisis, but of cardiac and pulmonary complications. Hardy and Anderson tend to be a little more liberal. They would say the laboratory findings of progressive anemia and moderate to marked eosinophilia with leukocytosis and a marrow with marked granulocytic hyperplasia with eosinophilia and an x-ray showing cardiomegaly, pulmonary infiltrates, pleural effusion, and abnormal electrocardiographic changes are the things that you can see in eosinophilic leukemia. Pathologically there is diffuse eosinophilic infiltration of organs.

An interesting review by Dr. Klein reviews 30 cases of eosinophilic leukemia up to 1960. These

patients rarely had anemia or thrombocytopenia. Most of these patients did have symptoms or signs of myocardial infarction or peripheral or pulmonary embolization. Hence, he thought these were all cases of eosinophilic endocarditis, the syndrome I previously described. Characteristic findings were peripheral blood eosinophilia, heart failure and peripheral embolization. The patients at autopsy had right sided heart wall but not valvular fibrosis and mural thrombi. The usual presentation of these cases is either chronic or acute; 50% of these patients died within the year. There were more males than females and the age range was broad. A few had left ventricular hypertrophy and most had peripheral embolic phenomenon or pulmonary embolic phenomenon. The muscles were not involved but in one case a biopsy did show involvement of the muscle with eosinophils. However, there is no clinical muscle involvement.

In summary, I think this whole case can be explained by one of the hypereosinophilic syndromes involving the heart. The blue toes and abnormal peripheral pulses could be expanded on the basis of the embolic phenomenon from the heart, the peripheral cyanosis then was either due to occlusion from emboli or possibly vasculitis. There was little evidence of clinical heart problems but I think for a 17-year-old to have a minor intraventricular conduction defect and a right bundle branch block would be abnormal. I think this may be significant and compatible with some endocardial involvement. I feel the patient had a hypereosinophilic syndrome with cardiac involvement but do not feel he is a true eosinophilic leukemia. I don't feel he had Loeffler's syndrome.

#### DR. DENNIS REIS' DIAGNOSES

1. *Hypereosinophilic Syndrome with Endocardial Involvement and Peripheral Embolization.*
2. *Periarteritis.*

DR. BARLOW: Dr. Blake, what do you think?

\*DR. JERRY BLAKE: Was there a biopsy for periarteritis nodosa?

DR. BARLOW: Yes, skin and muscle biopsy.

DR. BLAKE: I feel the patient could well have had a periarteritis.

\*\*DR. HOWARD SHREVES: With the color of the extremities, he must have had some venous involvement as well as arterial disease.

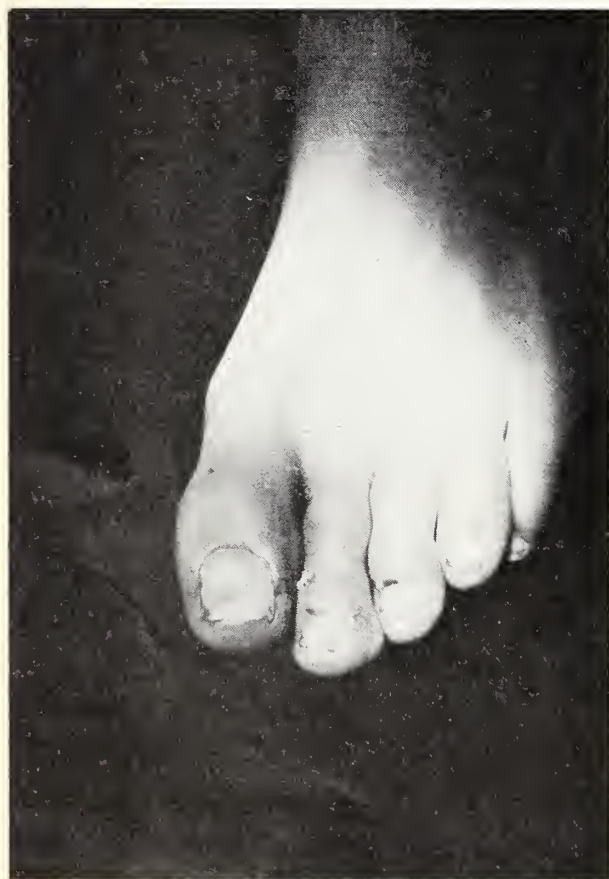
\*Intern, Sioux Valley Hospital.

\*\*Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

**\*DR. DICK JONGEWAARD:** I had a very similar case to this with pulmonary involvement in Iowa City. We called it pulmonary eosinophilic infiltration (PIE).

**\*\*DR. GREG MAGNUSSON:** I have to go along with the diagnosis of periarteritis nodosa.

**DR. BARLOW:** The first picture shows the abnormal extremities with the blue discoloration that I have pointed out before. (Fig. I) The following photomicrographs all show various powers of an artery in the subcutaneous tissue. You will note that there is a thrombus in the vessel as well as marked infiltration by inflammatory cells in the wall. (Fig. II) There are many eosinophils. This unquestionably makes the case fall into one of the arteritides. This patient

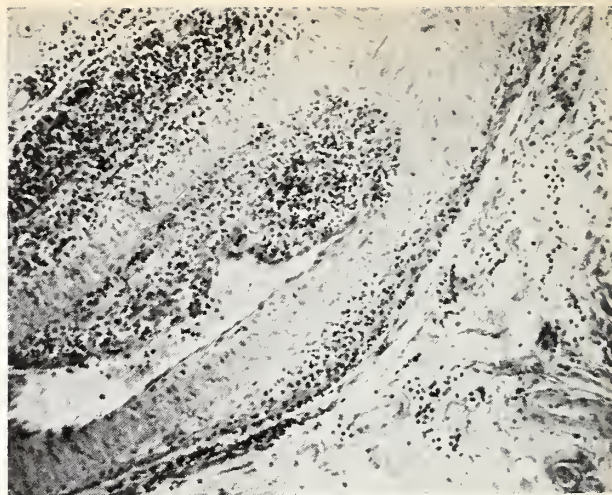


**Figure I**

Even black and white photograph demonstrates the discoloration of two toes (big toe and second toe).

\*Intern, Sioux Valley Hospital.

\*\*Intern, Sioux Valley Hospital.



**Figure II**

Classical arteritis with involvement of wall and organizing thrombus.

really doesn't fit any of the classic arteritides but has features common to several. Here is a description of some of the classic types.

The first type was described by Churg and Strauss and is called granulomatous arteritis. The arteries, veins and capillaries are affected by an arteritis and there is an association with large, necrotic granulomas, particularly in the lungs. The patient often has asthma, fever and marked eosinophilia. This disease may last months to years. Our patient had arteritis and eosinophilia but no lung granulomas.

A second type of arteritis is so-called polyarteritis or periarteritis nodosa described by Kussmaul and Maier. In this disease, the muscular arteries are affected at their bifurcation. A segment of whole vessel may be involved. There are often aneurysms, infarcts which can rupture with massive hemorrhage from the vessels. The intestines and kidneys are involved and involvement of the lungs is rare. The disease may last months to years. The histology in our case fits this disease but there is no renal disease.

The third type of arteritis is so-called temporal or giant cell arteritis which may affect the cranial arteries and cause blindness or cerebral infarct. It also can cause aortic arch syndrome or a pulseless disease. This particular entity may be associated with the syndrome of polymyalgia rheumatica. The disease occurs in older people and neither the histology nor clinical picture of giant cell arteritis fit our case today.



The next type of disease is Wegener's granulomatosis. These patients have generalized vasculitis but have necrotic granulomas in the lungs and marked inflammation of the sinuses. The disease may last months to years. This, of course, does not fit our patient.

Lastly, there is so-called hypersensitivity angiitis of Zeek. This involves the small vessels of all types and shows acute necrosis. The lungs and kidneys are markedly involved. This is similar to the serum sickness type lesion and is probably related to Henoch-Scholein disease or allergic vasculitis. These patients can recover. Children may get the disease with peripheral petechial rash, abdominal pain, arthritis, gastrointestinal bleeding or occasionally renal disease.

The patient today certainly does not have either the histologic or clinical features of temporal arteritis or hypersensitivity angiitis.

### FINAL ANATOMIC DIAGNOSES PERIARTERITIS NODOSA

The eosinophil is a poorly understood cell but has characteristic bilobed morphology and granules with cytochemical characteristics. They show chemotactic stimulus toward immune complexes and may be dependent on "T Cells" (thymus derived lymphocytes of cellular immunity) for their function. The fact that antigen antibody reactions are so common in a wide variety of diseases may explain their appearance in a wide variety of clinical states. These have been reviewed by Dr. Reis and are in any hematology textbook. The association with drug reaction, allergy and parasitic infection is well known. All drugs are discontinued and there is usually an exhaustive search for allergy in patients with eosinophilia. If these do not prove fruitful, biopsy of skin and muscle for polyarteritis nodosa and lymph nodes for Hodgkin's disease is usually carried out since these entities are occasionally associated with eosinophilia.

However, there are several other rather unusual entities which can cause eosinophilia. These involve different organ systems. Pulmonary infiltration with eosinophilia (PIE) is one group of disorders. This may range from Loeffler's disease which may be asymptomatic or associated with cough, fever and have pulmonary eosinophilic infiltrates. This is self limited. Tropical eosinophilia is included in this group. Parasites or drug allergies cause a certain proportion of these cases. Others are idiopathic. There is also a chronic pulmonary eosinophilic infiltration with or without asthma or with or without peripheral blood eosinophilia. The chest film shows characteristic peripheral densities (photographic

negative) picture. The disease can be treated successfully with steroids.

Loeffler's endocarditis parietalis fibroplastica is a disease of middle aged men who have fever, malaise, dyspnea, cough, cardiomegaly, cardiac murmurs and signs of congestive failure. Blood eosinophilia and hepatosplenomegaly are present. The disease is often fatal and mural thrombi with endocardial and myocardial fibrosis are seen associated with diffuse mature eosinophilia in many organs.

Diffuse eosinophilic organ infiltration of the prostate or lung along with necrotizing granulomas and arteritis has been well described in association with eosinophilia. The pulmonary picture is accompanied by asthma and multiple infiltrates (granulomas) on chest film. The prognosis is poor. This overlaps with the Churg-Strauss lesion.

Lastly, eosinophilic leukemia probably exists. One type associated with immature eosinophils and myeloblasts can relatively easily be recognized. Chronic eosinophilic leukemia is hard to diagnose. When it is associated with a philadelphia chromosome (PH) or low leukocyte alkaline phosphatase, a diagnosis can be made. However, other cases just show diffuse organ infiltration by mature eosinophils at autopsy. These are hard to classify.

In summary, eosinophilia is far from specific and there are a number of entities I have tried to separate above. Unfortunately, there is considerable overlap and much more to be learned.

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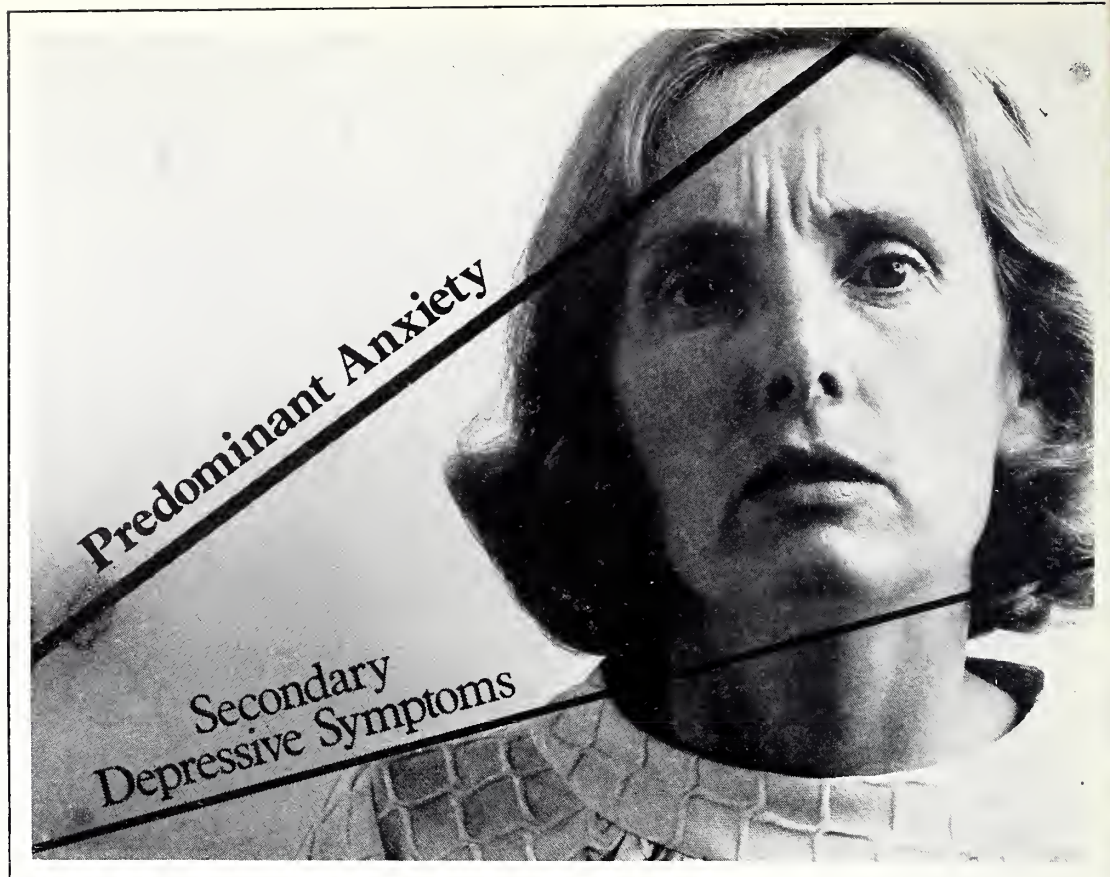


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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## CONSTIPATION IN INFANCY

Robert E. Nelson, M.D., FACS\*  
Discusser

John F. Barlow, M.D., FCAP\*\*  
Pathologist-Editor

### CASE NO. 73-2827

This was the first Sioux Valley admission of a 6-week-old male infant who had no bowel movement by the third day after birth. He was found to have a rectal mucous plug three days after birth and began to have normal bowel movements thereafter and was discharged. However, since that time the child had had problems with chronic constipation requiring glycerin suppositories. The constipation did not respond to prune juice or syrup in the formula. The patient's appetite markedly decreased over the past two weeks prior to admission and his abdomen was noted to be slightly distended. His birth weight was 7 lbs. 15 ozs. and the present weight 9 lbs. 8 ozs. Length was 22 inches as compared with 20 inches at birth. Physical examination showed a child with slightly distended abdomen. There were no abnormalities of the head and neck. The chest was clear to auscultation and percussion. The heart had a normal sinus tachycardia with no murmurs. The abdomen was distended, but no abnormal organs or masses were felt.

**LABORATORY DATA:** Urine, yellow, clear; specific gravity 1.005; pH 7.5; negative protein, glucose, reducing substance, ketone bodies, bile, hemoglobin. The sediment showed 0-3 white cells and was negative for red cells. Hemoglobin was 11.0 gms/dl; red count 3.33 million/mm<sup>3</sup>; hematocrit 30 vols/dl; mean corpuscular hemoglobin 33 micromicrograms; mean corpuscular volume 92 cubic micra; mean corpuscular hemoglobin concentration 36%. Total leukocyte count 13,500/mm<sup>3</sup> with 11% segmented neutrophils; 7% neutrophilic bands; 3% eosinophils; 73% normal lymphocytes; and 6% monocytes. The red cells showed slight anisocytosis and slight poikilocytosis. The platelets were normal in number and morphology. A pH

was 7.36, PCO<sub>2</sub> 46 mm of Hg.; CO<sub>2</sub> content 25 meq/L; Sodium 146 meq/L; chloride 104 meq/L.

An intravenous pyelogram was negative. A barium enema examination was diagnostic of the disease under discussion. The problem in this CPC is more a discussion of the disease entity and its diagnosis, and subsequent therapy and possible complications.

DR. BARLOW: As the protocol says, this is not much of a diagnostic problem. You read the protocol Dr. Magnuson, what do you think the patient has?

\*\*\*DR. GREGORY MAGNUSON: I think the patient undoubtedly has Hirschsprung's disease or congenital aganglionic megacolon.

DR. BARLOW: Are there any other diagnostic possibilities?

DR. MAGNUSON: Not many, I suppose it could be cystic fibrosis of the pancreas, but I doubt it.

DR. BARLOW: I guess they did not consider that entity here as there was no sweat chloride. Now that you have made the clinical diagnosis, how would you confirm it?

DR. MAGNUSON: I would get a biopsy of the colon.

DR. BARLOW: Dr. Crespo, suppose Dr. Magnuson comes to you and asks you how he should obtain a biopsy of the colon for megacolon. What would you say?

†DR. JOSE CRESPO: I would tell him to get a full thickness biopsy of the rectum so that muscle was included.

DR. BARLOW: Yes, that is one of the points I wanted to make; that it is necessary to get the intermuscular plexus in order to determine whether ganglion cells are absent or present.

††DR. HOWARD B. SHREVES: Do you have the x-rays? Thank you, I think this picture I can pass around is absolutely diagnostic of Hirschsprung's disease (Fig. I).

\*Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, University of South Dakota.

\*\*\*Intern, Sioux Valley Hospital.

†Resident in Pathology, Sioux Valley Hospital.

††Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.





**Figure I**

**Note that there is a dilated upper colon with a narrow lower segment which pathologically contained no ganglion cells.**

DR. ROBERT E. NELSON: I would like to point out that the biopsy is done just inside the internal sphincter. A full thickness biopsy can be done below the peritoneal reflection without complication.

\*DR. WARREN JONES: Do you biopsy a valve?

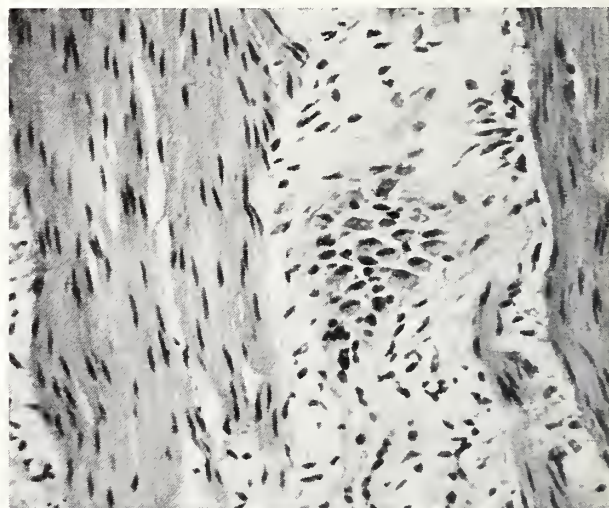
DR. SHREVES: No, you have to biopsy well below the peritoneal reflection. A valve is really not an anatomic structure. It is a physiologic structure and biopsying a valve could be dangerous. I have seen perforations from biopsies in this area. They say that the peritoneal reflection is supposed to be 13 cms. from the anus but sometimes it isn't that high. Congenital megacolon is supposed to be caused by an aganglionic segment which is always quite low and, if low is where the disease usually is, the biopsy should be very low, just inside the anus (Fig. I).

\*\*DR. DENNIS G. ORTMEIER: Do you obtain this biopsy with an anoscope?

DR. NELSON: No, I dilate the sphincter and do the biopsy under direct visualization. I put two stay sutures in the mucosa and then slit the mucosa and retract the mucosa back. I then take a wedge of muscle. It is important to include both the longi-

tudinal and circular layers of the muscle. I then close the muscle and close the mucosa.

DR. BARLOW: I would just like to show a couple of typical biopsies. The first slide shows normal ganglion cells (Fig. II). The next slide shows from the patient we are discussing today with hypertrophied nerve fibers in the muscle with the absence of ganglion cells (Fig. III).



**Figure II**

**This photomicrograph shows a cluster of ganglion cells in a normal colon in the intramuscular plexus.**



**Figure III**

**This photomicrograph shows intramuscular plexus but no ganglion cells from the case under discussion.**

\* Specialist in Internal Medicine, Sioux Valley Hospital; Associate Dean, School of Medicine, The University of South Dakota.

\*\*Family Practitioner, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.



DR. NELSON: Most of the patients that I see with Hirschsprung's disease are referred to me by a pediatrician because of constipation. Of the referrals seen, most of these children do not have Hirschsprung's disease. The incidence has been described as anywhere from one in three thousand to one in ten thousand. I think that the incidence is more than one in ten thousand, in my experience.

The mucus plug which the newborn infant expels after a rectal examination is supposed to be diagnostic of the disease. When a rectal is done on a newborn and upon withdrawing the finger the child expels a meconium plug and a quantity of gas, the diagnosis should be strongly suspected. It takes about five weeks for the bowel to dilate and produce a radiographic picture which would be diagnostic to the radiologist.

The diagnosis is proven or ruled out on all of these children by the full thickness muscle biopsy as previously mentioned. When the diagnosis has been made that there is an aganglionic segment, the child is taken to the operating room and a transverse colostomy constructed.

Colostomies in young children have a great propensity to herniate the bowel, three to six inches protruding outward from the stoma in many of them. This herniation can be avoided if extreme care and certain principles are used during the construction. The incision should be transverse over the rectus sheath above the umbilicus. The center of the skin incision should contain a tongue of skin which can later be pulled beneath the loop of bowel. The rectus fascia is incised transversely and the anterior rectus sheath, posterior rectus sheath and peritoneum are sewed together to construct a single layer.

After the loop has been pulled through the wall, the single layer of fascia is sutured securely to the entire circumference of both loops of the bowel. Centrally in the area of the mesentery, the mesentery should be opened and the caudal-cephalad portions of the fascia should be sutured together. The skin is closed around both loops. The aforementioned tongue of tissue is slid under the loop through the opening in the mesentery. This type of construction will stop the very bothersome herniation.

I have been waiting until the infant is 20 to 25 pounds before doing the definitive procedure. Three types of operation are done. They all work very well. Dr. Swenson first described a definitive procedure in 1948. This operation is basically a resection of the aganglionic segment down to the internal sphincter and a pull-through type anastomosis.

Whenever any of these procedures are performed,

biopsy must be done in the operating room to define the limits of the aganglionic segment. There are reports where large areas of the colon or even the entire colon and terminal ileum have been aganglionic. It should also be mentioned that at the time of transverse colostomy, biopsy for ganglion cells must be done.

There are some potential complications to the Swenson pull-through procedure due to the dissection in the perirectal area with possible interference with the nerve supply, leading to urinary problems or problems with erection at a later date in the male. For this reason, two other procedures to correct Hirschsprung's disease have been developed. Duhamel described a procedure in which the bowel is transected in the sigmoid area above the peritoneal reflection and above the aganglionic segment. The rectosigmoid is then freed posteriorly down to the internal sphincter. The proximal bowel is brought posterior and then anastomosed after removing a pyramid of tissue of the rectum at the level of the internal sphincter.

The third operation is the Soave procedure. In this procedure, the upper limit of the aganglionic segment is first defined. Saline is injected into the anterior taenia to elevate the mucosa from the muscularis. A vertical incision is then made through the muscularis and the mucosa is dissected free circumferentially. The muscularis is then cut circumferentially and the mucosa is dissected free from the muscularis down to the internal sphincter. A catheter is then passed up the rectum, the Foley bag inflated and a tie placed distal to the bag in the region of the normal proximal bowel. The bowel is then intussuscepted through the anus. The mucosa is cut free within a centimeter of the internal sphincter and the proximal normal bowel sutured to this mucosa. This leaves normal bowel in a tube of muscularis of the aganglionic segment.

This operation does not interfere with the nerve supply to the pelvis. Six weeks later the transverse colostomy is closed and the fecal stream re-established down its normal course.

DR. SHREVES: How often do you see this disease?

DR. NELSON: I see it about once every two years.

DR. SHREVES: It is really a rare disease, isn't it?

DR. NELSON: Yes.

DR. SHREVES: When I was in medical school, they thought the disease was in the dilated part of the bowel, but it has since been proved otherwise.

DR. NELSON: Dr. Swenson solved the riddle of this disease. He noted that when you did a colostomy, the colostomy functioned well and the dilated superior portion of the bowel became normal. How-

ever, once he reanastomosed the colostomy through the lower portion of the bowel, the bowel dilated again except for a small segment, very low in the rectum. Swenson reasoned that the disease had to be due to the small segment that was not dilated. It is surprising that someone had not thought of this before, but people were so attracted to the bowel, that they did not pay any attention to the narrowed segment down below.

\*DR. LLOYD SWEENEY: Was this case pretty typical?

DR. NELSON: Well, the aganglionic segment was quite long. I kept biopsying and the pathologists kept hemming and hawing and finally when I got up into the sigmoid he said "There they are" (speaking of the ganglion cells).

DR. BARLOW: Yes, this is often the case. It is easier to say something is there than saying what is not there. When you see ganglion cells it is very easy to be sure of them, but when you don't, you have to be a little more cautious.

\*\*DR. DORENCE ENSBERG: Don't these infants sometimes have diarrhea?

DR. NELSON: Yes, they often present that way, but this is because they have a large fecalith in the dilated colon which the liquid feces is running around. You see this same problem with an impaction of a colostomy. The patient may have diarrhea.

DR. BARLOW: Then you should not dismiss the diagnosis in an infant if he has diarrhea.

DR. NELSON: Yes, that is true but you always get a long history of constipation as well.

\*\*\* DR. Wm. O. ROSSING: Is not this aganglionic segment the same thing you get in achalasia of the esophagus?

DR. ENSBERG: Yes, lack of ganglion cells has been described in the gastroesophageal region in achalasia.

DR. SWEENEY: Are there drugs which are effective in megacolon? I refer especially to when you have not resected all the aganglionic portions and run into trouble.

DR. SHREVES: There have been drugs described for this.

DR. ENSBERG: The trouble with the drugs is that they cause spasm of the aganglionic segment which seems to be hypersensitive to the action of the drugs. A somewhat similar syndrome occurs in the esophagus

after vagotomy for peptic ulcer.

DR. SWEENEY: Before we go, I think that I would like to emphasize one thing. Constipation in infants can be due not only to Hirschsprung's disease, but also may be due to hypothyroidism (cretinism). Therefore, if you see a child with long standing constipation you must consider the diagnosis of cretinism and treat it soon or you have condemned him to a life of mental retardation. I should also point out that stool holding in infants is a common physiological problem. This is more common than either of the two diseases we have discussed.

DR. BARLOW: I would just like to review a few facts about this disease. Megacolon means pronounced dilatation of the colon and both congenital and acquired forms exist.

Congenital megacolon is usually called Hirschsprung's disease from his description in 1894 but apparently a Dutch physician Frederik Ruysch previously described the disease. Hirschsprung's disease is characterized by severe constipation punctuated by episodes of diarrhea which date from birth. The absence of autonomic ganglia in a segment of colon render the intestine incapable of effective peristalsis which impedes propulsion of the fecal stream. Proximal to the aganglionic segment the colon becomes markedly dilated and hypertrophied—especially the circular muscle layer. The child often has a markedly distended abdomen but this may be absent if the disease is diagnosed early. Scybala of large bulk may ulcerate or perforate the colon. Rarely either preoperatively or postoperatively a severe enterocolitis may occur. The disease occurs in about one in 2,000 births and males markedly predominate. It is familial but the mode of transmission is not clear. It appears to be less common in Negroes than in whites.

The aganglionic segment is usually narrow and located in the sigmoid and is associated with an aganglionic rectum. Longer segments of aganglionosis even to total absence of ganglion cells in the colon have been described but are very rare. Extension of lack of ganglion cells to the small bowel has also been described but by far the most common is a short segment of aganglionic distal colon and dilated proximal colon. Skip areas are rare. Dr. Nelson has commented on this.

Microscopically ganglion cells are easy to find in the normal colon. While the submucosal (Meissner's plexus) and mucosal plexuses (Cajal's plexus) lack ganglion cells, a biopsy including the circular and longitudinal muscle to above the internal sphincter to demonstrate Auerbach's plexus is the best. Frozen section can be done but there is usually

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no necessity for this provided the sample is ample. The longer aganglionic segments require more thorough study frequently with frozen section to demonstrate where the aganglionosis stops. Hypertrophied nerve fibers are often present without ganglion cells in the biopsy.

Thank you for the interesting discussion, gentlemen.

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#### CANCER: THE CELL THAT WON'T DIE

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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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Edward Shaw, Ph.D., former professor in the Chemistry Department at the University of South Dakota Medical School, is recuperating from a cerebral vascular accident. Cards may be sent to him at 26303 South Western Avenue, Peninsula Convalescent Hospital, Lomita, California 90717.

\* \* \* \*

A four county pilot project utilizing radio signals linking ambulances and hospitals in DeSmet, Wessington Springs, Miller and Huron, has been established. It is hoped that this system will provide better emergency care for South Dakota, particularly in the rural areas. **Robert Hayes, M.D.**, State Health Officer, dedicated the new system, which is funded by the South Dakota Highway Safety Program and the Federal Department of Transportation.

\* \* \* \*

The Five Counties Clinic, Lemmon, announced the association of **John A. Nanson, M.D.** in the practice of internal medicine, pediatrics and obstetrics-gynecology. Dr. Nanson received his medical training in England and moved to Lemmon after practicing one year in Lillooet, British Columbia.

**Walter Patt, M.D.** Brookings, participated in a panel discussion following the showing of the film "Who Should Survive?" sponsored by the Right to Life in Brookings.

\* \* \* \*

Junior and senior high school guidance counselors attending a health career workshop in Yankton heard **T. H. Sattler, M.D.**, Yankton, discuss the degree granting medical school proposal for South Dakota.

**N. R. Whitney, M.D.**, Rapid City, has been elected chairman of the South Dakota Chapter of the American Academy of Pediatrics.

\* \* \* \*

Seventh District officers for 1974 are **James Shaeffer, M.D.**, President; **W. O. Rossing, M.D.**, Vice President; **D. M. Lang, M.D.**, Secretary; and **Guy Tam, M.D.**, Treasurer.

\* \* \* \*

**H. Z. Kim, M.D.**, Huron, has been named a Diplomate of the American Board of Obstetrics-Gynecology.

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**Charles W. Ihle, Jr., M.D.**, 63, died recently following a lengthy illness. He had practiced as a pediatrician in Sioux Falls since 1946. Dr. Ihle was a fellow of the American Academy of Pediatrics, a licentiate of the American Board of Pediatrics, a member of the Northwest Pediatric Society, served on the advisory medical board of the Crippled Children's Hospital and School and was a member of the Seventh District and South Dakota State Medical Association. Survivors include his widow and three daughters.



# ECONOMICS



## REGIONAL COOPERATION IN CONTINUING EDUCATION\*

by

Robert R. Donahoe, M.D.\*\*

The Director of Medical Education of today is a man who has many different images. This image in a university setting is entirely different from that of a community hospital environment. Being from a non-university oriented center, I will confine my remarks to how the changes in education as recommended by the Carnegie Commission, and the Citizens' Committee on Graduate Medical Education have, and must affect our area.

The Director of Medical Education has traditionally been charged with the primary responsibility for the graduate medical education programs, (that is internships, residencies and continuing education for physicians).

In 1970, when the edict ending free standing internship was made known, Sioux Falls, which had two free standing internships, was faced with a problem. A committee was appointed by the President of the Seventh District Medical Society to study the implications of this A.M.A. resolution and charged with the responsibility to make recommendations relative to the course of graduate medical education. This committee, consisting of the Directors of Medical Education from each hospital and 13 other members, after an indepth study of some seven months, recommended that graduate medical education must be preserved in our community. It was felt that if

we were to become an area health education center that it was imperative that a Family Practice Residency program be formulated and implemented by July, 1973. As of this date our program has begun with one second year resident and four first year residents. This residency is a jointly sponsored program by the two community hospitals, McKennan and Sioux Valley, and organizationally run by a separate corporation whose Board of Directors is made up by two doctors from each hospital staff, three Board members of each hospital and an administrator from each hospital.

Concomitantly with the consumation of this graduate training program, the need for a degree granting medical school has been facing us. South Dakota, as you may or may not know, has a two year school of medicine, which necessitates the transfer of third and fourth year students. While up to the present time there has not been any student who did not get transferred, it has become more difficult and we find that the students are transferring farther and farther away from home, thus making it more difficult to get them back into our state for their internships and now, family practice residency. There are three other existing residency programs within the state: a pathology residency at Sioux Falls and a surgical and obstetrical residency program at Yankton, South Dakota. It has been a statistically proven fact that doctors tend to stay within a 100 mile radius of where they last finished their training. Out of our last year's group of interns, five of thirteen stayed in the state to practice medicine, two went out of state and five returned to residencies with

\*Talk given by a panelist at the Annual Meeting of the Regional Meeting of the American Association of Medical Clinics.

\*\*Medical Director, McKennan Hospital; General Surgeon, Donahoe Clinic, Sioux Falls, South Dakota.

one entering the service.

I have made reference to the Carnegie Commission before and I like to feel that Sioux Falls, as per their plan for developing a "Health Education Center" is possible, a non-university setting for this Center's functions would have to include:

1. Maintaining community hospitals of *outstanding quality*, many of whose patients would be admitted on a referral basis from surrounding communities of smaller size.
2. To conduct educational programs under the supervision of the faculty of an area or university health science center with which the area center is affiliated.

These educational programs should include:

- a.) Graduate education as just mentioned.
- b.) Clinical instruction for M.D.'s, D.O.'s and D.D.S.'s.
- c.) Clinical experience for students in allied health programs.
- d.) Continuing education programs for health manpower in the area.
- e.) Guidance to colleges in the area in the development of training programs for allied health professions.
- f.) Cooperation with hospitals and community agencies in planning development of a more effective health care delivery system.
- g.) Limited research programs concerned with the evaluation of the health care delivery system.

Thus, Sioux Falls can fulfill all of these qualifications for an area health education center.

One of the more, if not most important function of these centers is *Continuing Medical Education*. The South Dakota State Medical Association, in response to a survey, expressed their desire for a strong continuing medical education system even though South Dakota probably has more difficulty bringing educational opportunities to the practicing physician within its borders than most states, due to its low population density, low absolute and relative number of physicians, no clinical school of medicine and geographic distance. Many physicians are practicing alone and it is difficult for them to leave their practice for any extended length of time.

The success of any educational program for physicians is measured by the success this education benefits the patients, that is in "*patient care*". To provide this improvement in patient care, the level of medicine practiced in the hospital and in the office must be raised, and this can only be done by providing continuing medical education of not only

the physicians involved but also all of the allied health services.

The Advisory Committee on Continuing Medical Education of the South Dakota State Medical Association has undertaken a study and has recommended a plan for continuing medical education for the doctors of South Dakota, utilizing existing scientific meetings already established in the state, such as the A.A.F.P.; the State Chapter of the American College of Surgeons; the American Society of Internal Medicine; the South Dakota Chapter of American Academy of Pediatrics; the State Medical meetings and utilizing educational portions of community hospital staff meetings.

The plan consists of two parts:

- A. To establish a *recognition award* of the South Dakota State Medical Association for Continuing Medical Education.

This award shall be created and sponsored by the South Dakota State Medical Association and consists of a certificate and publication of the award in the SOUTH DAKOTA JOURNAL OF MEDICINE. Its intent (while voluntary) is to encourage and support physicians who participate regularly in continuing medical education. (The South Dakota State Medical Association strongly believes that all physicians practicing in the state must continue their education on a regular basis throughout their professional careers). It is my feeling that this should not be voluntary but mandatory.

All physicians and osteopaths practicing in the state are eligible without regard to membership in the South Dakota State Medical Association or District Medical Societies, citizenship, race, creed, religion or sex. The award requires three consecutive years of continuing medical education totaling 150 hours on an hour's credit for an hour's acceptable educational experience. Thus, 150 hours of credit may be obtained by several different continuing medical education activities.

These activities are separated into categories.

CATEGORY 1: are those activities with accredited sponsorship. At least (60 hours credit) *must* be obtained in this category—all 150 hours may be obtained here.

An accredited organization (sponsorship) is one that is accredited for its continuing medical education by the A.M.A. Council on Medical Education or by the Committee on Continuing Medical Education of the S.D.S.M.A. Credit can be given in this category for programs cosponsored by an accredited organization which is substantially involved in continuing



medical education and accepts responsibility for the quality of such programs. Under this category programs must be planned, coordinated, administered and evaluated in terms of specific educational objectives for a defined group of physicians or an individual physician.

Included in this type of program are:

- a. Grand rounds.
- b. Teaching rounds.
- c. Departmental scientific meetings.
- d. Clinical Traineeships.
- e. Continuing medical education courses, seminars, workshops, mini residencies, visiting lecture programs and scientific seminars, medical specialty societies including local, regional, state, national and international meetings.

All Category 1 programs not accredited by the A.M.A. Council on Continuing Medical Education or not listed in continuing medical education courses for physicians as published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION require certification by the Committee on Continuing Medical Education of S.D.S.M.A. at least one month prior to the course.

CATEGORIES 2 - 3 - 4 - AND 5 are those that have a non-accredited sponsorship and consist of staff meetings (educational), departmental meetings, teaching, (45 hours) of medical students, physicians and allied health professional personnel and preceptorships (3 hours). Papers, publications, books, presentations and exhibits (40 hours), non-organized individual continuing medical education activities (45 hours) such as:

Self-learning (22 hours) via:

Audio-visual films.

Audio tapes.

Video tapes.

Slides.

Journal Club.

Patient care review (22 hours)—peer reviews, medical audits, consecutive case conferences, chart audits and self assessment (22 hours) programs.

Varying hours of credit are allowed for each of these categories.

The above categories state how the prescribed hourly credits can be earned. In order to make them obtainable, a planned development of a medical education network in South Dakota is being implemented.

In order to make available programs in continuing medical education as discussed earlier, it is

proposed that South Dakota create 12 educational centers for post-graduate medical education. These centers will be the private community hospitals, all of which are accredited hospitals with one exception (by Joint Commission on Hospital Accreditation). These hospitals are required to have at least one scientific meeting per month and this program should not be difficult to implement. These programs will be approved, coordinated, directed and be open to all physicians in the area or at least can be available for post-graduate education within a reasonable distance of each physician.

These centers are depicted in the map and located in the larger medical communities of South Dakota, such as Sioux Falls, Yankton, Brookings, Mitchell, Watertown, Huron, Aberdeen and Rapid City.

This system places only 12 physicians at a greater distance than one hour from any of these continuing medical education centers. Many physicians will have access to one or more centers and can choose their program and make it possible for more than one physician in a locality to go to these programs and still leave his town covered medically or if this is not possible, he will be only one hour's drive away and can get back within a reasonable time in case of an emergency.

These continuing educational offerings need to be centrally coordinated and monitored to assure a proper balance on breadth and depth of programs offered and to evaluate the effectiveness of this program on the individual physician.

Prior to the time that the South Dakota Continuing Medical Education Committee presented their program in June, 1973 at the State Medical meeting, it became apparent to me and the Medical Education Committee at McKennan Hospital that the direction that medicine was taking and all of the talk of peer review, P.S.R.O. recertification and all of the newspaper and TV programs on health care delivery in this country, the best way to solve the majority of the problems (not including the so-called physician shortage) was to encourage continuing medical education. It is a known fact that there has been a tremendous expansion of medical knowledge. With the half life of total medical information estimated at something less than 5 years, it becomes absolutely imperative then that the physician in any discipline continue to add to his store of knowledge in some formal, systematic manner.

The South Dakota University School of Medicine in conjunction with the Yankton physicians, particularly Dr. C. B. McVay, have, during the school year, held continuing medical educational experi-

ences, utilizing visiting faculty from different educational institutions. This is a one day medical experience from 9:00 a.m. to 4:00 p.m.

McKenna Hospital, realizing that Sioux Falls was lacking in continuing medical education to a degree that would improve health care delivery and therefore, patient care, has sponsored continuing medical education in a formal and directed way through the Outreach Program at the Mayo Clinic. Up to the present time we have had four seminars as a trial run. This year, beginning in September, we plan three seminars before January 1 and four after January 1 on a monthly basis. These seminars are arranged for through the Continuing Medical Education Department of the Mayo Clinic and in particular, through their chairman, Dr. James Hunt. The seminars are of two days' duration—Friday afternoons and Saturday mornings, allowing 5½ hours (Category 1) credit. When this program first began, Friday afternoons were for the house staff in the two community hospitals, but was soon expanded to include physicians locally and from surrounding areas. Invitations are sent to all physicians in South Dakota, in the southwestern Minnesota area and the northwestern Iowa area. Attendance at these seminars, while not satisfactory, is improving with the knowledge that these quality continuing medical educational programs are available. The physicians who have attended them are enthusiastic and have requested that they be continued. These programs consist of a short formal presentation and then case presentations, with discussion. On several occasions there have been actual patients used and seen by the visiting faculty. These seminars have been scheduled for the last Friday and Saturday of each month.

In addition to these Mayo Outreach programs sponsored by McKenna Hospital, we have had what is called "Cancer Clinics" jointly sponsored by the University of South Dakota School of Medicine and McKenna and Sioux Valley Hospitals. These seminars are again a part of the Mayo Clinic Outreach Educational Program.

The Medical and allied health professions in Sioux Falls are particularly happy that the Mayo Clinic has chosen to play such a big role in continuing medical education and hope to expand our cooperative efforts in education at all levels in undergraduate and especially *graduate* and postgraduate fields. It is a source of a quality medical experience for its recipients and we hope that it will improve our health care delivery system so that the patients will benefit by better patient care, which, after all, is the end result of what all of us are trying

to do.

These preceding remarks then, are an example of the "external" role of the Director of Medical Education as a catalyst to develop programs that augment the basic role of the Director of Medical Education such as:

1. The necessity of developing intern and residency programs,
2. Importance of a degree granting medical school,
3. The need for continuing medical education, and its relevance to the internship program, the residency program, the health manpower team and the allied health fields.

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## ADULT RENAL POLYCYSTIC DISEASE IN THE JUVENILE PATIENT DEMONSTRATED BY NEPHROTOMOGRAPHY

Case Report\*  
by  
Martin Frank Petereit, M.D.

It would seem that the demonstration of adult renal polycystic disease in the juvenile patient is quite uncommon. Two well-known textbooks<sup>1,2</sup> do not contain an example in this age group. We have recently seen such a case.

### CASE REPORT

An 11-year-old white male was admitted to McKennan Hospital, with a history of nausea, vomiting, and diarrhea one month ago. Since that time, he had persistent vague abdominal pain. He had no symptoms suggesting urinary tract disease.

Physical examination was normal. Urinalysis revealed 1+ protein, but was otherwise negative. A 12 panel was normal, as were upper and lower gastrointestinal examinations. The intravenous urogram was abnormal, in that the renal shadows were too large for a patient of 68 lbs. (Fig. 1). Even though the collecting systems were not distorted, polycystic disease was suspected. Nephrotomography demonstrated multiple small lucent parenchymal cysts bilaterally, of various size (Fig. 2).

Further history revealed that the patient's maternal grandfather died at this hospital, at age 63 years, of bilateral polycystic disease with uremia. This was confirmed by autopsy. Several other family members, of the maternal grandfather, also died of this condition.

The over-all impression was that the patient's symptoms were unrelated to the renal findings. He was signed out as: (1) functional bowel problem, and (2) early renal polycystic disease.

### DISCUSSION

Renal polycystic disease is a progressive disease of congenital origin, with definite hereditary tendencies,

and it is almost always bilateral.<sup>2</sup> Most agree that this type of cystic disorder is transmitted as an autosomal dominant trait.<sup>4</sup>

*Infantile* and *adult* forms of polycystic disease are recognized.<sup>2</sup> In the infantile form (also known as infantile sponge kidney, hamartomatous cystic kidney, microcystic kidneys, and polycystic kidneys of the newborn<sup>3</sup>), the cut section of the kidney ap-



Figure 1

Drip infusion pyelogram film of an 11-year-old white male. The left kidney measures 14 cm and the right 13.2 cm. Considering the patient's age and weight (68 lbs.), both kidneys are enlarged. The collecting systems show no definite abnormality. However, the lower pole infundibulum on the right does not fill out and there is a suspicion of a mass in this area.

\*From the Medical X-Ray Center, Sioux Falls, South Dakota.



Figure II

Drip infusion pyelography with nephrotomography. Numerous small to moderate size lucent defects were scattered throughout the parenchyma of both kidneys. These defects had sharp borders. The arrow on the left points to a cyst measuring 2 cm and the arrow on the right points to a smaller cyst. The smaller cysts in the left kidney were difficult to reproduce.

appears like a sponge because of the myriads of small cysts of uniform size. The kidneys may be involved to different degrees, so that an erroneous diagnosis of unilateral disease may be made.<sup>2</sup> This variety of cystic disease is rare, is usually sporadic, but has occurred in siblings. Usually, death occurs after birth, but occasionally, a patient lives several months or years. The intravenous urogram shows large kidneys with irregular cortical surfaces and dilated collecting systems<sup>3</sup>.

In the adult form, the cysts vary considerably in size, some becoming quite large.<sup>2</sup> This disease usually does not produce symptoms until the third decade.<sup>3</sup> It frequently passes unnoticed in childhood. However, in a child with renal failure, an intravenous urogram may demonstrate renal enlargement, which is less than is seen with the infantile form.<sup>1</sup> The nephrogram phase shows multiple lucencies (the cysts) scattered throughout the functioning parenchyma. The calyces and infundibula are elongated and stretched over the cysts. However, if the cysts are small (as in our case), there may be no distortion or displacement of the collecting systems.<sup>3</sup> The strong familial history and the bilateral tendency of the disease are strong diagnostic points.<sup>1</sup>

There is some discussion concerning the possible relationship of infantile sponge kidney to adult polycystic disease. However, they are clearly differentiated by their pyelographic pictures, histology, and clinical course.<sup>3</sup>

The classification of renal cysts and their differen-

tial diagnostic features have been well discussed elsewhere.<sup>2,3</sup> However, one important differential consideration is multiple simple cysts. These are usually larger, fewer in number, not progressive (or only minimally so), not familial, usually seen in adults, and are clinically unimportant.

There can be little doubt that our case represents early adult polycystic disease. Infusion pyelography was required to demonstrate the cysts. If this study was performed on more children of patients with known polycystic disease, more examples of early disease would probably be found.

#### ACKNOWLEDGEMENT:

The author wishes to thank Donald J. Peik, M.D., Sioux Falls, S.D., for preparing the photographs of the radiographs.

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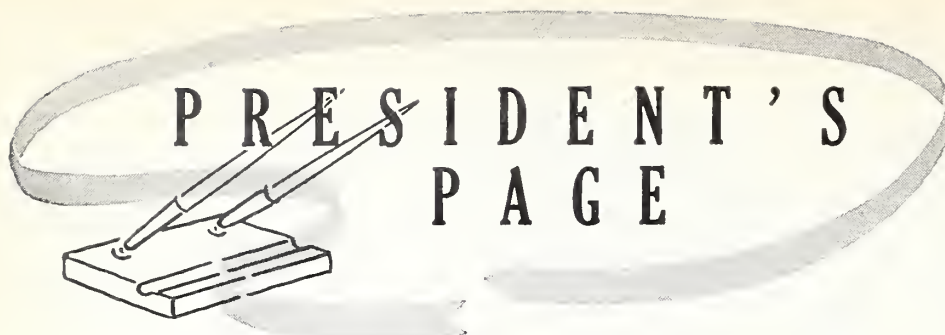
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Today when the Nation, as well as South Dakota, is increasingly concerned with the problems faced by the First Americans, two recent reports (one on the State level and one on the National level) are significant and worthy of our attention:

- 1) The recent Arrow Conference on American Indian problems, held in Sioux Falls and attended by Doctors G. R. Bartron, R. H. Hayes and G. E. Tracy, which is an important initial step in analyzing South Dakota's problems.
- 2) The excellent report adopted at the American Medical Association meeting in Anaheim in December of 1973.

The American Medical Association's House of Delegates approved the following condensed recommendations at the meeting in Anaheim:

- 1) Support efforts in Congress to enable the Indian Health Service to meet its obligation to bring Indian health up to the general population level.
  - a. Involve the Indian population in training for the various health professions.
  - b. Increase the numbers of non-Federal health centers.
  - c. Increase involvement of private practitioners and facilities in Indian health care.
  - d. Improve transportation for adequate health care.
- 2) Facilities:
  - a. Immediate construction and modernization of Indian health facilities to bring them up to the current standards of practice and accreditation.
- 3) Manpower:
  - a. Adequate and competitive compensation for Health Service physicians.
  - b. Integration of Indian Health Service facilities with teaching programs for all the health professionals.
  - c. Continuing education for all health professionals, and increased peer contact for quality of care and to avert professional isolation.
  - d. Establishment of a stable Public Health Service corps.
- 4) Medical Societies:
  - a. Increased formal liaison with local Indian Health Service physicians.
  - b. Support for improvement of Indian health care, including professional consultation and involvement in Medical Society activities.
- 5) State and Local Government:
  - a. State and local government attention to the health and health-related needs of non-reservation Indians, in an effort to improve their quality of life.
- 6) Conclusion:

Indian health problems are well recognized and well documented. The Council believes that, while many of these problems are social problems and the result of poverty and isolation, implementation of the above sets of recommendations would do much to ameliorate these conditions. The Council's position can best be stated by repeating again the words published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in January of 1949, also twenty-five years ago: "Many recommendations and conclusions which we arrived at in the course of this survey have been made before by officials of the Indian Service. Largely because of the inadequate budgets, either these recommendations have not been carried out at all or have not been carried beyond the initial steps. It is high time that Congress realizes the situation and gives adequate financial support, so that these many recommendations can be effectively carried out."



Dr. Beryl Blue Spruce, Special Assistant to the Director of Indian Health Service, is one of fifty physicians identified as being of Indian descent in the United States. He recently urged a larger Indian voice in problems of delivering health care to Indian communities. He believes that such participation in planning and carrying out health programs for themselves would improve the programs, restore a measure of dignity to the beneficiaries, and provide family and tribal models and informed support for the bright youngsters who want to join the Country's army of 3,800,000 health professionals. At present, they number only 425.

I urge that you review the complete American Medical Association's Report G, which can be obtained through the South Dakota State Medical Association's office. Especially in our State, with its substantial population of native Americans, it is incumbent on each of us to inform ourselves of the commitment made by organized medicine to help improve health care and health care delivery for Indian people.

T. H. Sattler, M.D.  
President

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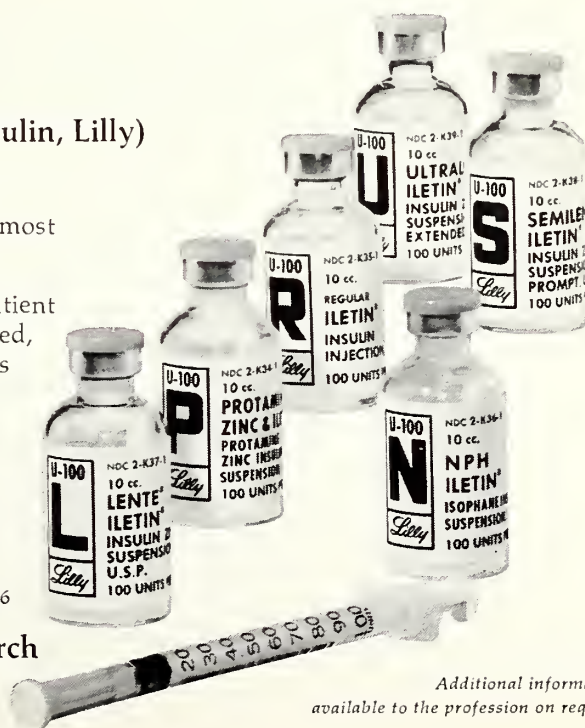
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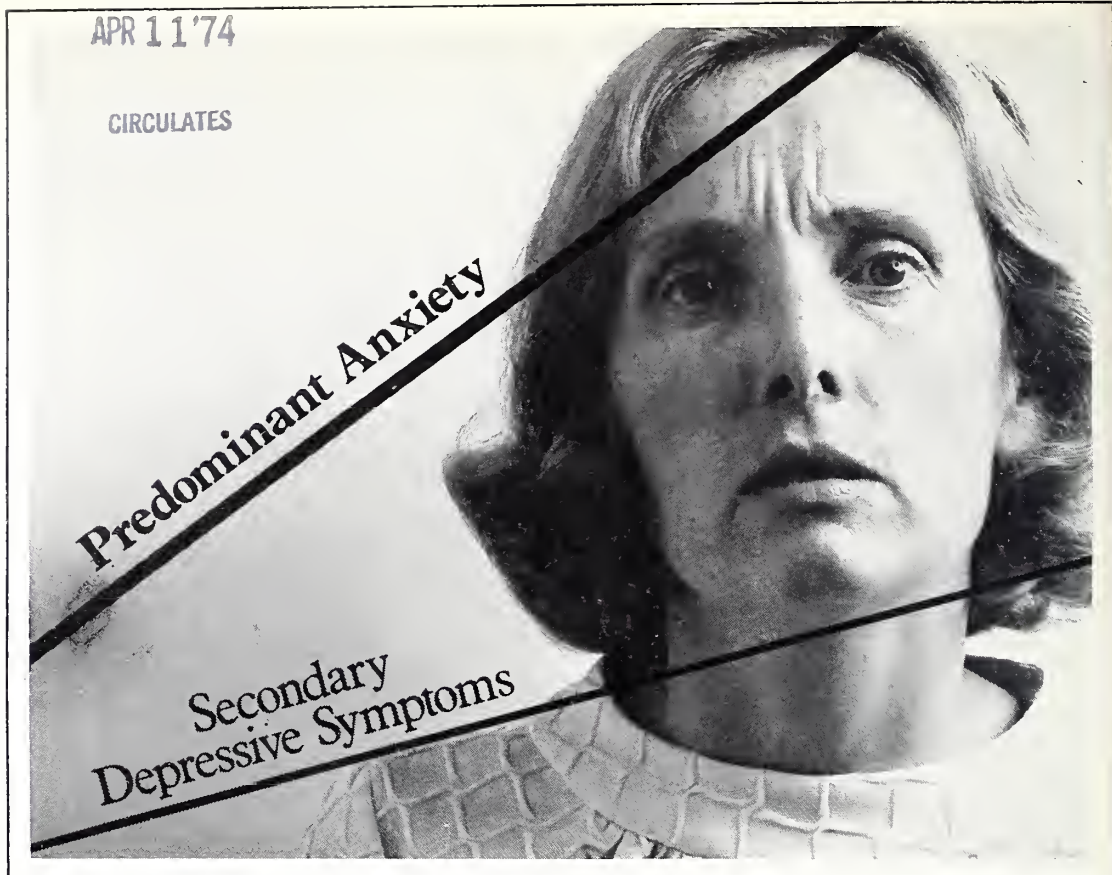
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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## TWO-YEAR-OLD CHILD WITH LYTIC LESION OF DIAPHYSIS OF LEFT HUMERUS

Dennis L. Johnson, M.D.\*  
*Orthopedic Surgeon-Discusser*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist-Editor*

### CASE NO. 73-3157

This two-year-old male child was struck in the proximal left arm by a pony one month prior to admission without apparent injury. After the injury, the arm moved normally and there was no sustained injury, but an x-ray was not taken at that time. One week after the accident a mass appeared in the left lateral proximal arm which slowly enlarged until admission. There was an erythematous discoloration to the arm and he had not used the arm in a normal pattern. There was no history of fever or chills and the patient had had a good appetite and played normally. He was seen by a pediatrician who obtained a white count of 15,000/mm<sup>3</sup> and an erythrocyte sedimentation rate of 7 mm/hr. An x-ray in the outpatient department showed a lytic lesion of the mid-shaft of the left humerus with some periosteal reaction.

Physical examination on admission showed a well developed, well nourished white male. The pulse was 108 per minute and regular, respirations 22 per minute and regular, temperature 98.8°F, blood pressure 110 systolic and 60 diastolic. Examination of the head and neck was unremarkable. The chest was clear to auscultation and percussion. The heart showed a normal sinus rhythm and no murmurs. There were no enlarged organs, masses, spasm, or tenderness on an abdominal examination. On the distal aspect of the deltoid there was a firm, nontender, erythematous mass directly beneath the subcutaneous tissue. It appeared to be attached to the deltoid with more prominence when the arm was abducted. It was not unduly warm. Arm motion was unremarkable. Neurologic examination was unremarkable.

**LABORATORY EXAMINATION:** Urinalysis: straw colored, clear, specific gravity 1.019, pH 5.0, negative for protein, glucose, reducing substances, ketone, bile and hemoglobin. A microscopic sediment showed 0-1 white cells/high power field. The Hgb. was 12.4 gms/dl, red count 4.68 million/mm<sup>3</sup>, hct. 36 vols/dl, mean corpuscular hemoglobin 27 micromicrograms, mean corpuscular volume, 76 cubic micra, mean corpuscular hemoglobin concentra-

tion 34%. Total leukocyte count 12,400/mm<sup>3</sup> with 46% segmented neutrophils, 1% eosinophils, 46% lymphocytes, 4% monocytes. The platelets appeared normal in number and morphology on smear and the red cells were normochromic, normocytic. An erythrocyte sedimentation rate was 39 mm/hr. Chest films showed the heart to be of normal size. There was a suggestion of a minimal inflammatory process in the lower lung fields. An x-ray bone survey showed no abnormality, except in the left humeral shaft which was widened on its posterior lateral aspect and had subperiosteal bone formation. On the inferior medial aspect, there was a lytic lesion.



Figure I

The lytic lesion in the diaphysis with questionable periosteal reaction is seen.

\* Orthopedic Surgeon, Sioux Valley Hospital, Clinical Faculty, School of Medicine, University of South Dakota.

\*\* Pathologist, Laboratory of Clinical Medicine, Sioux Valley Hospital, and Professor of Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.

DR. JOHNSON: First, I would like to show these x-ray films. The lytic lesion in the diaphysis is obvious. There is a suggestion of periosteal reaction and in this next x-ray, you can definitely see a soft tissue mass, which is of water density. Other films show the same process at different angles. I do not see other lesions in the other bones. (Fig. I).

In summary, we have a two-year-old child with a lytic lesion in the humerus, with accompanying soft tissue mass one month after an injury. I am not sure whether he had pseudo-paralysis of the arm or was just having difficulty moving it. Positive physical findings are limited to the non-tender erythematous mass in the upper deltoid region. The laboratory findings included a slightly increased white count and an increased sedimentation rate. There was a questionable inflammatory process in the lungs. Additional history that might have been valuable would have been whether this patient had any recent shots or vaccinations in the region of the left deltoid. I assume from the protocol that this possibility had been considered and eliminated. The additional procedure that might have been indicated would be to prep and aspirate the area of erythema hoping to obtain some pus for culture and sensitivity. A fungal culture should have been done as well. Throat, blood, and urine culture should also have been obtained. An antistreptolysin O titer might have been helpful.

In the differential diagnosis, congenital and genetic lesions are ruled out by the history and the x-ray. Metabolic disorders are pretty well ruled out from what I have seen in the x-ray. This leaves us with the two categories of infection and neoplastic process. Infection would be my first choice. Various series report anywhere from 30 to 50 percent of cases where trauma precipitates hematogenous osteomyelitis. The organism in anywhere from 50 to 90 percent of the cases is staphylococcus aureus. Other offenders include beta hemolytic streptococcus, salmonella, and haemophilus influenza. Other possibilities of an infectious nature such as tuberculosis, viral osteomyelitis are very unlikely. Viral osteomyelitis is quite rare but can occur after a smallpox vaccination. Tuberculosis has a greater affinity for vertebral bodies and joints rather than the diaphysis of long bones.

In the category of a benign neoplastic disease, a simple cyst or unicameral bone cyst could be considered. The position of this lesion in the diaphysis is very much against a simple cyst which should be much closer to the epiphyseal plate. You would also have to assume a pathologic fracture to account

for the periosteal involvement. A non-ossifying fibroma could be considered, but again you would have to assume a pathologic fracture to substantiate this. Enchondroma is possible but not very likely. The location is all right but you would again have to suggest a pathologic fracture to account for an enchondroma and the x-ray picture is not very good for an enchondroma.

A malignant neoplastic condition which should be considered is a neuroblastoma metastasis. This can occur in the long bones and is prevalent under the age of five. A screening test for VMA in the urine should probably be done as it is elevated in neuroblastoma. Eosinophilic granuloma can masquerade as many lesions and should be considered. Ewing's sarcoma does not occur often at the age of five, but can occur. Children with Ewing's sarcoma are usually quite ill and toxic. This does not always occur with osteomyelitis as is often thought. After that we come to the category of all tumors known and unknown.

My approach to this case would be to admit the patient and start him on high doses of intravenous antibiotics for a period of about 48 hours while we were obtaining cultures. Unless the patient was quite toxic (in which case I would have to open the lesion sooner), the lesion should be opened and I would expect to treat it by windowing of the cortical area. This would be done by small drill holes rather than a large gutter. The reason for this is that a hole larger than 30 percent of the diameter of the bone will weaken the bone considerably. The wounds could either be closed or could be packed and left open depending upon the amount of infection. A secondary closure could be performed if the wound were left open. Specimens for culture and sensitivity should also be sent from the operating room along with tissue specimens for routine analysis. Material from certain neoplastic processes can look very much like pus so that you should always have histologic confirmation before you make a diagnosis of infection. "Pus" could be necrotic debris from a tumor. The other measures would be supportive such as a splinting or binding the extremity or placing it in traction so that the muscles are at rest. Ice packs might help reduce the pain and swelling.

#### DR. DENNIS L. JOHNSON'S DIAGNOSIS

##### *1. Acute Hematogenous Osteomyelitis.*

DR. BARLOW: Let me ask one of the interns how common it is to see hematogenous osteomyelitis starting in the diaphysis.

\*DR. RAYMOND OWENS: I don't think it is very common.

\* Intern, Sioux Valley Hospital.



DR. BARLOW: Dr. Gross?

DR. H. PHIL GROSS: It's very uncommon. The usual metaphyseal location in children for osteomyelitis is due to the sludging of blood in this region because it has a characteristic vascular supply in childhood. I suppose trauma could have injured some of the blood vessels in the region of the diaphysis and account for the location of osteomyelitis in this case.

DR. BARLOW: Dr. Van Demark, how often have you seen diaphyseal osteomyelitis?

\*\*DR. R. E. VAN DEMARK: It is very rare.

\*\*\*DR. W. O. ROSSING: Is the blood supply to the humerus mostly through the nutrient artery or through the periosteum?

DR. H. PHIL GROSS: About 2/3 is through the nutrient artery, 1/3 through the periosteum.

\*\*\*\*DR. GREG MAGNUSON: Was there a break in the skin at the original injury?

DR. BARLOW: I don't believe so.

†DR. LOREN AMUNDSON: How long between the two sed rates?

DR. BARLOW: About two weeks.

††DR. STEVE NOLL: Would you have to put a window in this lesion?

DR. JOHNSON: There is a controversy about decompressing osteomyelitis. In this case, there was a soft tissue mass which means the lesion may have decompressed itself. This may explain why the patient was not toxic. Some would say that you would not have to put a window in this lesion if it was already decompressed but other authors suggest it should be done in most cases.

†††DR. LAWRENCE SITTNER: What antibiotics would you use?

DR. JOHNSON: I would use a combination of methicillin and ampicillin intravenously. The dose is 300 milligrams per kilogram per day each in divided doses every four to six hours. You cannot mix these antibiotics so it becomes quite a problem. The ampicillin will cover salmonella and the methicillin will cover beta hemolytic streptococcus and staphylococcus.

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† Family Practitioner, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

†† Intern, McKennan Hospital.

††† Family Practitioner, Sioux Valley Hospital.

DR. BARLOW: The first slide shows an inflammatory process in the soft tissue swelling noted clinically. Higher power shows that granulation tissue as well as acute and chronic inflammation is present (Fig. II). Sections of the windows made in the bone show chronic active inflammation in the marrow spaces. The lesion was biopsied as shown and treated as Dr. Johnson described. The organism cultured was staphylococcus coagulase positive.

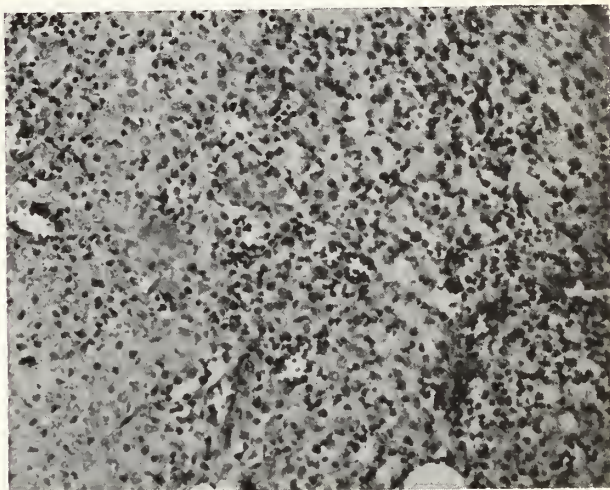


Figure II

High power of soft tissue mass in arm showing chronic active inflammation.

## FINAL ANATOMIC DIAGNOSES

### Hematogenous Osteomyelitis (Staphylococcus Coagulase Positive)

I would like to review an article by Waldvogel et al in the New England Journal in 1970. This is a review of osteomyelitis. The authors classified osteomyelitis into three categories:

1. Hematogenous osteomyelitis
2. Osteomyelitis secondary to a contiguous focus of infection
3. Osteomyelitis secondary to peripheral vascular disease

Generalizations about osteomyelitis included the fact that 60-90 percent were still due to staphylococcus; that cultures from blood, wound or bone aspirate with antimicrobial susceptibility were extremely important; that surgery for diagnosis or debridement was necessary; and that there had been an increase in osteomyelitis secondary to contiguous infection but a decrease in hematogenous osteomyelitis in recent years. Pathologically all osteomyelitis is chronic active. Sequestra must often be removed by surgery since these dead pieces of bone often act as foreign bodies and perpetuate chronic infection.

Hematogenous osteomyelitis is largely a disease of children (85 percent of cases under 16). The

reason for the characteristic metaphyseal location and age predilection is that the nutrient artery sends vessels toward the epiphysis where they make sharp loops. This looping plus the addition of lack of phagocytic endothelial cells in the region and lack of anastomoses in the region make circulation sluggish and organisms from a bacteremia might lodge in this stagnant area. When the epiphysis closes this vascular anatomy disappears.

The authors point out that all the forms of osteomyelitis may or may not be associated with fever, chills, leukocytosis, swelling, and other signs of infection. In recurrences, these signs of toxicity and inflammation are even less common. Forty-four percent of the hematogenous group had only vague symptoms. Dr. Johnson pointed this out but I would like to reemphasize this point.

The second category of osteomyelitis secondary to a contiguous infection was a mixed group but the most common. These were secondary to craniotomy, reduction of fractures, sinusitis, felons, burns, etc. The most common organism was again staphylococcus but a variety of others were present. Debridement and appropriate antimicrobial agents determined by culture and antimicrobial susceptibility testing were again the methods of treatment.

The third category of osteomyelitis was osteomyelitis secondary to vascular insufficiency. This was basically osteomyelitis secondary to diabetic foot ulcers. The diabetes was long standing and patients often had other complications of diabetes. This was a particularly disheartening group since amputation was frequently necessary. There is often a mixed culture of organisms in patients with diabetic ulcers and secondary osteomyelitis. These include staphylococci, enterococci, enterobacteriaceae and various anaerobic organisms.

The authors also mention the increasing incidence of vertebral osteomyelitis in the postantibiotic era. The patients are usually over 50 and have severe back pain and tenderness but no fever. Although the lumbar region is the most common, all areas of the vertebral column may be involved. Complications include cord compression from pathologic fracture, spinal epidural abscess, meningitis, soft tissue abscess. These may be very difficult to diagnose by x-ray. Since neither osteomyelitis in the vertebrae or in other bones shows radiologic changes before 10 days to several weeks, the use of the new technetium polyphosphate bone scan may be helpful in early diagnosis. This new agent allows high count rates

at lower patient dose and can detect bone lesions of many types earlier than x-ray.

\*DR. R. A. JAQUA: Are blood cultures very helpful in diagnosing osteomyelitis in inaccessible areas?

DR. JOHNSON: There are variable results but blood cultures can be helpful. I should like to add here that I also believe that the cause of the diaphyseal location of the infection in this region can be explained by trauma with rupture of the sinusoids causing an area of low resistance to infection.

DR. VAN DEMARK: I would like to mention that we have had several cases of vertebral osteomyelitis which you have talked about. We have had a patient with low back pain who had a high titer for salmonella. Treatment with antibiotics showed marked response and the x-ray now shows that this patient had infection of two disc spaces. I also might mention that there can be retrograde infection of vertebrae from Batson's venous plexus which drains the pelvis.

DR. NOLL: What is the length of treatment for osteomyelitis? I find this hard to find in textbooks.

DR. JOHNSON: I agree that what are prolonged and what are massive intravenous doses are somewhat variable. One course is four weeks with average dose intravenously of 300 milligrams per kilogram. This is followed by several weeks of oral therapy. In Minnesota, there is a question whether intravenous therapy is needed the entire four weeks. This period is often cut down to two or three weeks until acute symptoms subside and then there is several months of oral therapy. It is interesting at the Minneapolis V.A. Hospital that they are using erythromycin for cases of chronic osteomyelitis which prevents flare-ups of this disease. This is in spite of the fact that the organism is not always sensitive to erythromycin.

DR. H. PHIL GROSS: I would like to add one thing and that is Sutton's Law. Willie Sutton was a bank robber who was asked "Why do you rob banks?" He said, "Because that's where the money is." My point is with all the many tests we have, we should not get too bogged down and if we have a specific lesion we should biopsy it.

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## *Letters to the Editor*

South Dakota has a quiet partner in medical care. Within your state, there exists a huge group practice, organized as a prepaid health plan. It has its own up-to-date system of small-town hospitals and its own professional staff of dentists, pharmacists, and itinerant nurses. It utilizes the Problem Oriented Record System. It can call upon consulting specialists to assist with the care of complex cases without concern for the escalation of costs. Most importantly, it serves an indigent rural population that would otherwise attract minimal medical attention.

Nonetheless, the Indian Health Service faces major problems in South Dakota. It has relied upon young and inexperienced physicians who rarely remained for more than a two-year hitch. The disappearance of the doctor draft has lessened the pool of worried young physicians, and most of these apply for esoteric assignments in Alaska, or near the population centers of the Southwest. The incident at Wounded Knee and tribal activism at other reservations have placed an additional burden upon the Public Health Service recruiters.

The need for professional help is staggering. At one isolated hospital in North-central South Dakota, a single physician is assigned to a four-man station. This facility recorded 1,373 outpatient visits in a single month (September, 1973), plus 84 admissions (an average daily patient load of 11.0) and 10 births. To be sure, this physician had some help: since July, 1973, eight other physicians, including myself, have helped for short periods ranging from a week to a month. But the quality of patient care has suffered from this lack of continuity.

I think there are several things that South Dakota physicians can do to help, both in the present situation and during the years to come. Of

primary importance is for you, the physician in private practice, to see for yourself what the problem is. Visit the nearest Indian Health Service Hospital during your next day off. Talk directly with the young men and women who are assigned there, and pitch in and see a few patients with them. You'll probably go home with widened eyes, and certainly will reassure them that you, the "Contract Doc," are a living, breathing human being rather than a voice on the telephone.

Secondly, invite the P.H.S. doctor to visit your facilities, and to participate with you in improving the health care of all South Dakotans. Encourage him to come to your educational meetings, and to join your Medical Societies.

Finally, let him know your personal thoughts and opinions. Who knows, you might even talk him into staying in South Dakota permanently!

William W. Quick, M.D.  
Deputy Chief of Medicine  
Alaska Native Medical Center  
Anchorage, Alaska

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The **Donahoe Clinic, P. A.**, of Sioux Falls will be celebrating their 25th anniversary on Saturday, April 20, with the presentation of a medical seminar on Collagen Diseases. Additional information on this program which includes noted speakers from area medical schools will be forthcoming.

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## INDIAN HEALTH CARE IN S.D.— WHAT IS THE FUTURE?

by  
J. B. Gregg, M.D.

The President's letter by Ted Sattler in the February issue of the Journal, the Report of the Council on Medical Service of the A.M.A. on Health Care of the American Indian, and the letter to the editor of this month's issue of the Journal by Doctor William W. Quick, all relating to Indian Health care, are "must" reading for every member of the South Dakota State Medical Association. Each of these reports is factual and interesting, but unfortunately, all are rather ethereal and do not get down to the nitty-gritty details of how we, the physicians of South Dakota can help solve the problem. Unless there is some drastic change in the next six months the state of South Dakota and the physicians who practice here are going to find themselves abruptly enmeshed in this thorny situation.

Although the Indian people in South Dakota may seek medical assistance at their own expense, from private physicians, the majority are treated at Public Health Service hospitals. Prior to the abolition of the doctor draft law, young physicians were deferred from the military draft if they served at PHS hospitals. This provided annual replacement for those who left the service. Now, with no doctor draft, the source of supply of physicians is gone, unless some other help is found. Unfortunately, the places where the Indian population is centered are the reservations, the majority of which are located a long distance from the highest concentrations of physicians in this state.

In the past many family physicians in South Dakota have treated the Indian people either on or off the reservation, too often without any hope of rec-

ompense for services rendered. It has also been the privilege of a number of South Dakota physicians to serve as consultants to the PHS. Health care for the Indian people was often interesting with a never ending source of unusual pathology. Although many consultants started helping Indian people on a voluntary basis without remuneration and would have been satisfied to have continued on this basis, there evolved at the behest of the USPHS, the system of contractual traveling consultants whose services were available to the various reservation hospitals. Most of the consultants who undertook service at the various PHS hospitals agreed to conduct teaching clinics, assist the PHS officers as much as possible and also to help educate them in the treatment of problems with which they had no experience. Clinicopathological Conferences and other educational sessions were often held at the hospital. For the most part until recently there existed a spirit of camaraderie between the consultants and the PHS doctors who seemed to appreciate the efforts of the consultants. However, in the recent past with the changed situation in the PHS, there has been de-emphasis upon the services of the consultants as teachers and more stress placed upon them to act as screens to filter out pathology in large groups of people in a short time so that they can be referred for definitive treatment. The inability of most of the PHS hospitals to obtain O.R. nurses, post-anesthesia staff, anesthetists, and other ancillary personnel, all necessary if definitive treatment is to be carried out at the PHS hospitals, has eliminated much local treatment at these hospitals and necessitated trans-



er of patients elsewhere. All of these factors have led to deterioration in the morale of the PHS personnel and the health care at the reservation hospitals. If there are no physicians at the Indian hospitals, the consultant program will wither on the vine.

Because of the potentially tragic health care situation which may exist in South Dakota by mid 1974 if nothing is done to remedy the situation, President Sattler in December 1973 proposed that the matter be investigated by the SDSMA with the idea of trying to determine what this Association can do to assist in alleviating the problem both now and in the future. A request for ideas concerning this subject was sent to knowledgeable individuals in this state among them being the Governor, several physicians, civic leaders, the Medical Officers in Charge of Indian Health Service Area Office, and to the Medical Officer in Charge of each PHS Indian Hospital. Prompt replies containing some most interesting ideas were received from the majority of the physicians and community leaders, but to this date, (February 1, 1974), there has not been received a reply from any of the Indian Health Service activities.

On January 12, 1974, a paper was presented to the Council of the SDSMA and the motion (see below) which was passed by the Council.

"Motion: The Council of the SDSMA assign the matter of Indian Health Care to the appropriate commission of the SDSMA or to a special task force **immediately** with instructions to investigate this problem **at once**, formulate suggested policy for the SDSMA to follow, and report back to the Council of the SDSMA at its next scheduled meeting. **Be it further moved** that the agency of this Association delegated to investigate this matter make contact soon with an agency such as the Regional Medical Program to seek funds to assist in the completion of this project."

A Task Force to Study Indian Health Care in South Dakota, consisting of Doctors G. E. Tracy, T. H. Willcockson, C. F. J. Blunck, B. C. Gerber,

J. Ryan, C. Allen and J. B. Gregg was appointed by President Sattler immediately thereafter. The basic questions which were asked of this Task Force to open the matter for further investigation were:

1. Should we contact the North Dakota, Nebraska, and Minnesota Medical Associations regarding a joint venture on this?
2. How should this Association contact the Indian people?
3. So far I have not heard from any of the Indian Hospitals or the USPHS other than a very nice call from Dr. Charles Allen in Rosebud. Where should we go along this line?
4. Should contact be made with our representative in Congress, and if so, who?
5. Should a request for a grant to R.M.P. or other organizations be made for funds to get this project rolling?
6. Should the M.D.'s of South Dakota be solicited regarding their possible donation of time to the project, similar to the program which I am trying to set up in the Academy of Ophthalmology and Otolaryngology? How about teams of specialists to supplement the family physicians?
7. Should contact be made with AmDoc or other organizations regarding supply of M.D.'s for S. D. and especially the reservations?
8. Can PHS nurses, both federal and state, or nurse physician assists, or Medex, be utilized to good advantage in this situation? How about updating the ambulance services on the reservations; perhaps make the hospitals on all but two or three reservations basically a first aid station and then use the med-evac system?

Because the questions associated with the health care of the Indian people who live in South Dakota are going to be around for quite some time, regardless of the immediate solution for 1974, all physicians who practice in this state must start giving some thought to this matter. Any ideas which you may have will be gratefully appreciated by the Task Force. Please help us.

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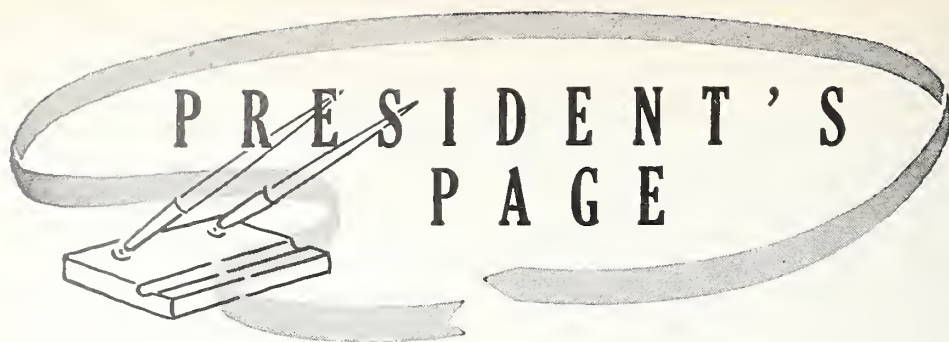
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Health care issues continue to receive much attention from Congress and state legislatures. Over 10 percent of the 17,000+ bills and resolutions introduced nationally in 1973 concerned medicine. In our own state, 50 of the 600 bills introduced for the thirty-workday session were of significant interest to medicine.

It is apparent that there has been not only a marked increase in statutes enacted by state legislatures but there is also an explosion of government involvement through directives and regulations promulgated by the administrative branches of state governments throughout the Nation. These regulations and directives often go well beyond the intent of the statutes which they are meant to implement, and this carries the danger of more and more direct government control. The wide variety of state involvement ranges from licensing by the state of health professionals to usurping control of health care by a state health authority.

Use of incentives for provider-efficiency in the use of health care resources—the so-called “market approach”—has been suggested as an alternative to direct state and federal control. It is evident that some measure of increasing regulation will be forthcoming. Whether this will be evidenced in extreme controls (the “public utility” concept), or the “market approach,” poses a question whose answer can have far-reaching effects.

The recent American Medical Association Leadership Conference has helped focus on the problem, and the South Dakota State Medical Association office has accumulated rather comprehensive reference data that can be made available for study.

Individually and as an association, we must be aware of the options that are available and utilize the opportunity for input, especially at the state level, into decisions having to do with the provisions and delivery of health care. As state influence replaces National influence to a significant degree and as administrative directives and regulations extend the specific legislative effect, our year-round contact and exchange of information with all of our legislators, elected officials, and administrative and planning personnel is a compelling need.

The suggested coordinating committee on health planning, involving the South Dakota Medical Association, Hospital Association, School of Medicine, State Department of Health, and the State Planning Bureau, should be another effective vehicle to initiate effective study of health care problems in South Dakota.

We cannot and MUST NOT abdicate our responsibility to evaluate health care plans and aid in promulgating effective and reasonable health planning for South Dakota.

Sincerely,  
T. H. Sattler, M.D.  
President, South Dakota  
State Medical Association





## PROCAINAMIDE-INDUCED LUPUS ERYTHEMATOSUS

by  
Reuben J. Bareis, M.D., F.A.C.P.

With the increasing use of procainamide as an anti-arrhythmic medication, it is inevitable that alert physicians will recognize more and more adverse reactions to its use. A variety of systemic, gastrointestinal, central nervous system, dermatological and blood element-affecting reactions have been described. In addition, in the last ten years procainamide has become implicated in a clinical syndrome with features of systemic lupus erythematosus, including positive tests for L.E. cells and antinuclear antibody. The purpose of this paper is to present five cases of such a syndrome that have been seen in the last three years, and to emphasize its frequency and the diversity of clinical pictures with which it can present. A brief review of the more recent clinical literature and some recent advances in the immunological field are included.

It is hoped that this paper will (1) alert the clinician to the possibility of this syndrome and (2) help him re-examine the role of procainamide in the treatment of cardiac arrhythmias.

### CASE REPORTS

#### Case I

Mr. L. H., age 65

Admitted to St. John's Hospital on January 5, 1971 with the story of having anterior pleuritic chest pain upon coughing or taking a deep breath, being depressed, apathetic, having shortness of breath with any exertion, being anorexic. Most of these symptoms had been going on for longer than six months and had been getting more severe. In addition, for four months, had complained of an abdominal pain, which seemed to be of a jabbing nature, seemed to move around some, and seemed to be worse if he would cough or take a deep breath.

\*Flourescent antinuclear antibody test.

His past history was significant, in that he was hospitalized in June, 1970, with "probable viral pneumonia, with pleurodynia." At that time, he had white counts of 6,000 and 4,000 respectively. His cold agglutinins were unchanged. There were minimal x-ray changes and a paucity of clinical findings. Because of more frequent premature contractions, his Pronestyl dose was doubled. He had been on 250 mgms. q.i.d. since March, 1969, for premature ventricular contractions. He was also hospitalized in September, 1970, with "jarring abdominal pain." A complete x-ray work-up was negative. His white count was 4,000, with a normal differential. Sed. rate was 32. He was signed out as abdominal pain of questionable cause, possibly related to acute myositis of the abdominal wall or possibly related to irritable bowel syndrome.

On this admission, his temperature was 100 degrees. He still had bigeminy. Except for minimal emphysematous changes, the examination of his chest was perfectly normal. However, his chest x-ray showed a variety of infiltrates, which were interpreted as being partly due to disk atelectasis and possibly due to pneumonitis or fibrosis. A repeat x-ray in two weeks showed minimal persistent areas which were felt to be related to fibrosis.

Laboratory work again showed a white count of 4,000, with normal differential, hemoglobin of 12 gms., urinalysis was normal. He had a normal plasma profile but his AG ratio was reversed. His sed. rate was 28 mms. per hour. A sputum culture grew out normal flora. However, his F.A.N.A.\* and L.E. prep were positive.

Upon learning of the positive F.A.N.A. test, his Pronestyl was stopped and Quinidine was started. Otherwise, he was treated symptomatically and started on Elavil, in small doses. He gradually improved and has had no difficulty since, aside from having a recurrent myocardial infarction and a cholecystectomy. In September, 1972, his F.A.N.A. was positive, but his L.E. prep was negative.

#### Case II

Mr. C. T., age 68

Hospitalized January 28, 1972, with a one week history of generalized aches and pains, low grade fever, and a hacking cough. Tetracycline had been prescribed three or four days previously without response. He was a long-time diabetic with diabetic nephropathy, has had coronary insufficiency and cerebrovascular insufficiency.

Past history was significant in that in April of 1971, because of generalized myalgias and a temperature, his Pronestyl, which he had been taking for six months in doses of 250 mgms. q.i.d., was discontinued. The Pronestyl was resumed two months prior to admission, in the same dose, because of frequent premature ventricular contractions and recurrent symptoms of coronary insufficiency.

Physical findings showed an acutely ill male, who, however, had a good appetite. Blood pressure was 140/60. Pulse was 100, with an occasional premature beat. Temperature was 102, rectally. Cardiomegaly, apical pansystolic and diastolic murmurs, a to and fro pericardial friction rub, a pleural friction rub, and dullness at the left base posteriorly were found.

Pertinent laboratory data showed a urinalysis with 3 plus albumin, trace of sugar, and numerous hyaline and finely granular casts, with a specific gravity of 1.014; white cell count of 17,000, 83 segs, 14 lymphs and sed. rate of 34; C-reactive protein and antistreptolysin titer were negative. Sputum culture was negative. Blood cultures times six were negative. A FANA test was positive, as was the L. E. preparation. A plasma profile was negative except for a minimal reversal of the A/G ratio and a B.U.N. of 35.

The electrocardiogram showed a rather diffuse ST segment elevation with occasional PVCs. Subsequent follow-up tracings showed return to the baseline, with minimal flattening of the T waves, considered to be compatible with pericarditis. Chest x-ray showed diffuse cardiomegaly and left pleural effusion. The question of pericardial effusion was raised; within two weeks, the pleural reaction had almost completely resolved and the cardiomegaly was less evident. (see Figure I and II.)

Clinical course: On admission, the differential diagnosis included (1) acute rheumatic fever (2) rheumatic heart disease with subacute bacterial endocarditis, (3) idiopathic viral pericarditis, (4) L. E.-like reaction to procainamide or Pronestyl. After appropriate cultures were obtained, he was started on large doses of Penicillin and when both the FANA and L.E. preps were positive, this was discontinued

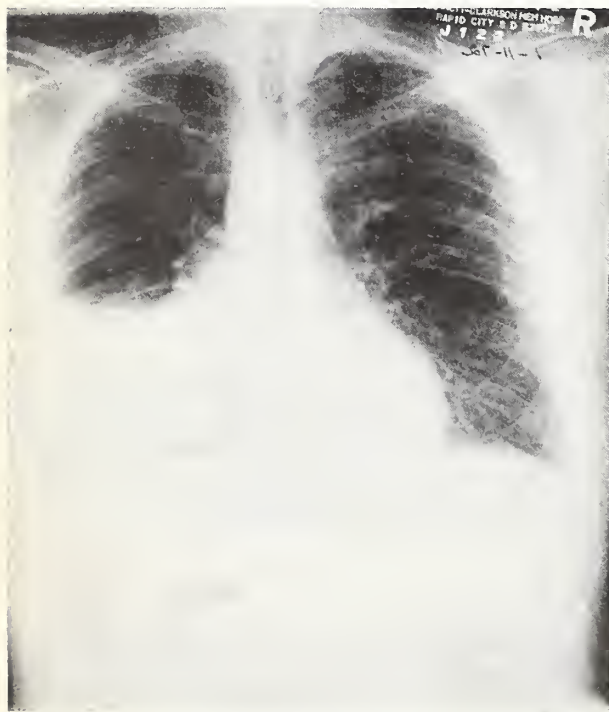


Figure I  
Admission picture.

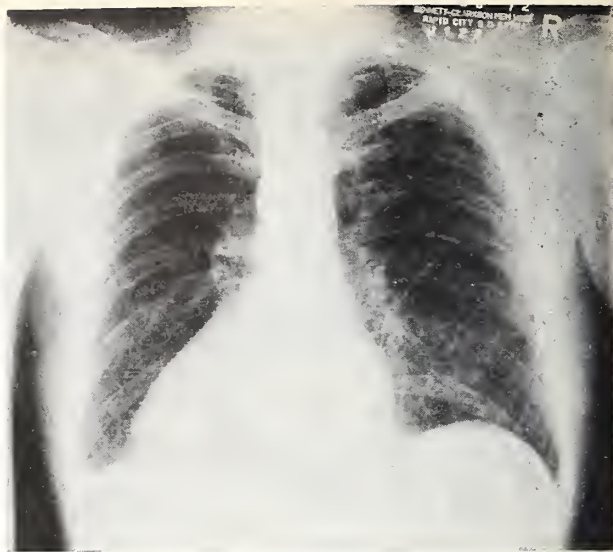


Figure II  
Two weeks later picture.

and he was started on prednisone, 40 mgms. daily. He had a prompt improvement in his clinical status and within two weeks, almost all evidence for pericarditis and pleural effusion had disappeared.

Follow up: The steroid was slowly discontinued over a three month period. However, in May, 1972, or approximately six weeks after stopping the prednisone, he had recurrent low-grade fever, malaise, and myalgias of the leg muscles, and was seen by his usual physician. A FANA and L.E. prep were again found to be positive and prednisone was restarted and continued in decreasing doses over the next six months period of time. At that time, an L.E. prep and FANA were negative and the prednisone was stopped. He has had no recurrent difficulties.

### Case III

Mrs. M. S., age 84

Hospitalized in January, 1972, for the fourth time in a four month period, with symptoms of bizarre anterior chest and upper abdominal pains, weakness, depression, anorexia, a weight loss of some forty pounds, all of which had been going on for about a year and were getting progressively worse. She had a complete x-ray work-up with negative findings. She had hypochlorhydria and some obstipation. I felt she had some ascites but a paracentesis was unsuccessful. She had had a small stroke several months previously, with a personality change, which complicated the picture. A presumptive diagnosis of intra-abdominal malignancy, such as pancreatic carcinoma was made, but she refused surgery.

Her physical examination was not really unusual, except that she appeared chronically ill, depressed, and had bigeminy secondary to unifocal premature ventricular contractions, despite getting Pronestyl, 250 mgms. q.i.d. She had been on this medication in varying doses for the previous four years.

Her laboratory data showed a white count of 5,000, with a normal differential; hemoglobin of 12 gms. Her plasma profile was normal in all respects, except for reversal of AG ratio, with an albumin of 3.5 and a globulin of 4.2. The urinalysis was negative, except for one plus albuminuria. Her FANA and L.E. preparation were positive.

At this point, her Pronestyl was discontinued and I saw her in two weeks, at which time, she had gained back four pounds. The anterior chest and abdominal pains were almost completely non-existent. She was eating better and



seemed much less depressed. Since then, she has been quite active, has made a number of out-of-state trips, has a good appetite, and has difficulty keeping her weight down. A repeat FANA in January, 1973, was negative.

#### Case IV

Mr. A. P., age 82

Admitted to the Coronary Care Unit on June 22, 1972, with the story of sudden onset of a dull substernal aching while sleeping, some 24 hours before, followed by pleuritic right-sided chest pain. This man had been on Pronestyl, 250 mgms. q.i.d., since September, 1969, after he developed premature ventricular contractions, following a severe coronary occlusion. He had visited his usual physician, in March, 1972, because of a superficial phlebitis, but this had since subsided.

His physical findings were really not unusual. He didn't look acutely ill. His temperature was 100, orally. He did not have any dyspnea, was not uncomfortable unless he took a deep breath, at which time, he complained of right-sided inferior anterior chest pain. His lungs were clear; only fleetingly, on the second hospital day, was a pleural friction rub heard in the area of pain.

His laboratory data included a white count of 14,000, with 83 segmented forms, hemoglobin of 14 gms., sed rate of 15. Urinalysis was normal. A transaminase series and a CPK were negative. He had a normal plasma profile. His FANA was positive, with a titer of 1 to 160, and his L.E. preparation was positive. His electrocardiograms done on several occasions were unchanged, compared with previous tracings, and his chest x-ray showed minimal fibrosis only and borderline left ventricular cardiomegaly.

**Clinical Course:** Initially, it was felt that he had a recurrence or extension of a previous anteroapical myocardial infarction or a pulmonary embolism. However, with the absence of electrocardiographic changes, normal enzyme studies, in association with positive FANA test and a pleural friction rub, a presumptive diagnosis of a lupus-like syndrome was made. By the time the diagnosis was made, the pain was minimal and so he continued to be treated symptomatically. He was discharged after two weeks, but when he returned on a routine office visit on July 25, 1972, he complained of persistent right anterior pleuritic type pains, as well as lethargy, apathy, weakness and anorexia. He did not think he was running a temperature, and indeed, on that date, his temperature was 98 degrees. He was given a decreasing dose of prednisone over a week's period of time, and while he was taking the medication, he felt better. However, during the subsequent week, he had the recurrence of the same symptoms, so that prednisone was restarted and maintained with decreasing dosages over the subsequent three months. He has felt well since that time. His L.E. prep and FANA have not been repeated.

#### Case V

Mrs. W. E., age 64

At the request of an orthopedic surgeon, I saw her for the first time in September, 1972, with generalized arthralgias and probable true arthritis of the proximal interphalangeal joint of the left ring finger, myalgias, feelings of giddiness so that she would actually fall, generalized weakness, depression, and weight loss of thirty pounds in one year. Joint aching literally involved every joint in her body. She also described generalized muscle tightness and soreness, sometimes some pain on swallowing. She had been getting procainamide or Pronestyl for frequent premature beats for about two years (250 mgms. b.i.d.) She has had a known sun sensitivity and is said to be allergic to iodine and Sulfadiazine. She has had difficulties with chronic cystitis, anxiety states, and multiple premature ventricular contractions, in the past.

Physical findings were not unusual. She did look twenty

years older than her stated age and she showed evidence for recent weight loss. I was amazed at the paucity of evidence for arthritis, except for limitation of movement and thickness of the left knee, and for the proximal interphalangeal joint of the ring finger which was reddened, inflamed and sensitive. She also had grade 2 to 3 peripheral arteriosclerotic changes.

Laboratory data included a plasma profile and urinalysis, which were negative. Her white count was 5,000, with a normal differential. Her hemoglobin was 13 gms. A latex fixation test for rheumatoid arthritis was negative and FANA test and L.E. prep were positive.

Upon stopping procainamide, her clinical course was one of gradual but steady improvement. Within two weeks, she stated she was much less weak and had much less giddiness or light-headedness. She persisted in having some aching of the proximal muscle groups and of the joints in general. She was started on Quinidine for palpitations, and she tolerated this well. Within two months, her joint symptoms had completely disappeared except for some aching and stiffness of the left knee. Her mental outlook had improved and now, almost a year later, she had gained back twenty pounds. FANA and L.E. prep have not been repeated.

**Clinical Syndrome:** In 1969, Doctor Alarcon-Segovia, from Mexico City, reviewed 54 cases of L.E.-like syndrome, which he culled from the literature. In 1972, Doctor S. E. Blomgren reviewed 44 cases, which he had seen in the Rochester, New York, area, over a four year period. These constitute the largest series reported to date. Their findings correlated quite strikingly. They found the sex incidence to be nearly equally distributed between men and women, 50 percent females in the former study and 40 percent in the latter study.<sup>1,2</sup> This compares with the approximate incidence of 90 percent females in the spontaneous form of lupus erythematosus.<sup>3</sup> As might be expected, the age incidence was in the older age group, where this drug is used more commonly. The age of 62 years in the latter group contrasted with the age of 28 years of onset for the spontaneous form.

The duration of treatment varied from one month to eight years with an average duration of twelve months. The mean dose of procainamide used was 1.6 gms. per day, with a range of .75 to 3.75 gms.<sup>2</sup> There seems to be a direct relationship between the size of the dose and length of the administration upon the predilection for the syndrome, but this is not invariable.

**Signs and Symptoms:** Polyarthralgia was the most common complaint cited. These arthralgias are symmetrical and polyarticular and affect in order of frequency, the fingers, hands, shoulders, wrists, elbows, and to a lesser extent, the knees and ankles. In eight of his 44 cases, Blomgren found an actual arthritis in one or more joints. Pulmonary manifestations (46%) and pleuritic pain (30%) were common and often severe. Pleural effusions are frequent, and

a differential diagnosis of pneumonia, malignancy, and pulmonary infarct must be considered. Fever (40 to 50%) may be low-grade or may be as high as 103 degrees Fahrenheit and spiking. Myalgias (20 to 50%) are often severe, most commonly involve the proximal muscles and also the trunk muscles. Weight loss (25%) can be found. One case was described where 70 pounds was lost in one year. Pericarditis (15%), hepatomegaly (25%), and splenomegaly (11%) were also seen. In contrast to the spontaneous form of the disease, adenopathy (5%) and renal manifestations (2%) are rarely seen.<sup>1</sup>

**Laboratory Findings:** Blomgren found antinuclear antibodies in all 44 cases. In none of them did he find a low serum complement or abnormal renal function. The finding of L.E. factor (87%) is similar to that in the spontaneous form. Leukopenia and anemia are found about one-half as frequently as in the spontaneous form.

**Drugs Implicated in the L.E.-like Syndrome.** Alarcon-Segovia suggests that drugs causing this syndrome should be placed in two categories: (1) drugs that activate the syndrome through some peculiar pharmacological property and (2) drugs that do so by eliciting allergic reactions, which in turn, bring about lupus. In the first category are those drugs which have been most commonly implicated: (1) hydrazine hydrochloride (Aprisoline), (2), isonicotinic acid hydrazide (Isoniazid), (3) anticonvulsants (Dilantin, Mesantoin, Tridione, Primidone), and (4) procainamide (Pronestyl). Drugs in the second group probably most commonly elicit allergic reactions, but it is altogether possible some of those listed could belong to the first group. This group includes penicillin, sulfonamides, tetracycline, streptomycin, phenyltiazone, propylthiouracil, griseofulvin, methyldopa, reseysine and others. Of special interest is that recently the oral contraceptives have been implicated. Phenothiazines (primarily chlorpromazine) may induce this phenomenon through their ability to enhance sunlight sensitivity through some unknown mechanism.<sup>4</sup>

Even though in 1969 only about 60 cases of procainamide-induced syndromes had been reported—in comparison to 150 cases of hydrazine hydrochloride (Aprisoline)-induced syndromes—the decreasing use of the latter and increasing use of the former should make procainamide the most common agent responsible for the rising incidence of this syndrome. With the increasing use of isonicotinic acid hydrazide (Isoniazid), we should also see more of these cases (18 cases reported by 1969.)<sup>3</sup> The

finding of antinuclear antibodies in 40 percent of 214 Isoniazid-treated adult tuberculosis patients supports that conjecture.<sup>1</sup> Prospective clinical studies should elucidate the true incidence of this syndrome in coming years.

**Area of Speculation.** Is the syndrome precipitated by procainamide and other drugs the same as spontaneous lupus erythematosus? Certainly there are many similarities but there are also a number of differences. The near equal sex incidence in the induced syndrome is in contrast to the preponderance of the female in idiopathic L.E. The supposedly increased incidence of pulmonary lesions in the induced form (although this is not the case in the Aprisoline-induced form) than in the spontaneous type, might be related to the older age group involved and may be more apparent than real. The apparent absence of renal involvement, the paucity of anemia and leukopenia are also important differences. Of course, these cases are recognized relatively soon in the course of their disease, before these other manifestations have had time to develop. Additional evidence against this syndrome being an "unmasked lupus diathesis" is the fact that most of these individuals "return to normal" shortly after the medication has been stopped. However, Alarcon-Segovia pointed out that in his hydrazine group, 25 to 35 patients had persistent manifestations up to nine years of follow-up. They seemed to persist longer in those who required a small dosage of the drug to produce the syndrome.<sup>1</sup> McDevitt reported that 14 cases of procainamide-induced lupus had complete recovery within two years.<sup>5</sup>

A solution to the problem has been complicated and delayed by the inability to produce the syndrome in laboratory animals. An Australian group injected procainamide into laboratory animals (rabbits, guinea pigs, rats, mice) for six months, but were unable to produce antinuclear antibodies.<sup>7</sup> Alarcon-Segovia has used this inability to produce the disease in animals as an argument for his unmasking of a "lupus diathesis" theory. He feels that one should be able to produce the disease in animals if the drug actually produces a "new" disease.<sup>1</sup> Spontaneous lupus has been reported in animals.

The strongest evidence against the theory that drugs unveil the latent predisposition of idiopathic lupus erythematosus, has been provided by immunological evidence that a high incidence of antinuclear antibody can be developed in patients treated with procainamide for six months or more, from 50 to 83%.<sup>6,7</sup> In most of these patients, antibody appeared within four months. In one series, 2 of the 8 positive FANA patients developed a clinical lupus-



like syndrome. There is nothing distinctive about their titers or the amount or duration of procainamide given. In all cases, antibody titer dropped shortly after the drug was discontinued. Undoubtedly, if the drug had been continued for a longer period of time, other patients would have also developed clinical symptoms.<sup>6</sup>

Further evidence against the "unveiling of DLE" theory is the inability to demonstrate antibodies against native DNA (just denatured DNA) in these patients (procainamide-induced).<sup>3</sup> Anti-native DNA antibodies are universally found in idiopathic DLE. Recent discovery of anti-native DNA antibodies in three hydralazine-induced lupus patients heightens speculation and emphasizes the need for further prospective studies in the immunological field.<sup>11</sup>

Since the estimated frequency of idiopathic lupus erythematosus in the general population is only 1 in 8,000 to 1 in 25,000, prospective evidence would challenge the concept that these drugs simply "unmask latent lupus erythematosus." On the other hand, there have been occasional recurrences of this syndrome, even though the drug has been stopped for a number of years. There has also been an occasional autopsy report of a patient who died from a drug-induced lupus syndrome where the autopsy findings are exactly the same as found in disseminated lupus, including renal involvement.<sup>8</sup>

How do these drugs initiate the syndrome? This of course is a matter of conjecture and really unknown. Certainly if one could find the key in these drug-related syndromes, the solving of the spontaneous lupus problem should quickly follow. It looks as if the solutions will have to come from immunological and biochemical studies in these patients, since the syndrome, to date, has not been reproducible in animals.

Certainly, we can conclude that the relationship between the variety of symptoms elicited and drug ingestion is hardly coincidental. Whether or not these drugs "unmask" a lupus diathesis is debatable and my bias would assume that it does so in a small minority of cases. One might consider that these drugs in some way activate a latent viral infection to produce symptoms of arthralgias, myalgias and other systemic symptoms, but there is no evidence for this. The most logical explanation of action would be that the drugs somehow elicit autoantibodies. There is no evidence that the drug acts as a hapten to produce a specific antibody. It is conceivable that it releases latent antigens or alters such antigens to stimulate antibody production of various types. Whether these antigens are host antigens, latent viral antigens, or virus-altered host

antigens is a matter of conjecture. Burnet speculates that drugs somehow influence the immunocytes to make a decision whether to eliminate all cells which might react significantly with an accessible body antigen or to proliferate in order to make more cells available to combine with such accessible body antigens. How these drugs accomplish this, of course, is totally unknown.<sup>9</sup>

**Discussion on case reports.** These five cases illustrate the diversity of clinical manifestations associated with this syndrome. Frequently, the disease is insidious and subtle; other times, it begins abruptly and dramatically. When the syndrome is insidious, it may defy recognition for months or years, thus providing a source of embarrassment and chagrin to the clinician (this one not excluded!) The onset of chills, fever, chest pain, would suggest a variety of possibilities, including pneumonitis (viral, bacterial-fungus, etc.) pulmonary emboli, carcinoma with complications, etc.

The literature emphasizes the frequency of arthralgias, myalgias and fever. Frankly, I was impressed with the degree of depression and apathy in a number of these patients. Certainly, the symptoms of depression, such as anorexia, weight loss, apathy, weakness, in the absence of temperature elevation or leukocytosis, would label these patients as having a functional, emotional disease. Such symptoms, in association with bizarre abdominal distress or chest distress, especially if weight loss is profound, would suggest the possibility of an occult malignancy. It is probable that many of these patients will be seen by psychiatric or surgical consultants.

One curious finding in three of these patients was that of an A/G ratio reversal or hyperglobulinemia. This was minimal with the globulins not exceeding 4 gms. in each instance. Protein electrophoretic studies and immunoglobulin studies might have been of interest in these patients. Alarcon-Segovia found hyperglobulinemia in 23 percent of his patients.<sup>1</sup>

The question arises as to how to proceed when one obtains a positive FANA test, with or without a positive L.E. preparation. The answer, of course, depends upon the clinical setting. Certainly, one should not incriminate an abnormal lab test as being the cause of all patient symptoms. In general, I would feel a substitute choice as an antiarrhythmic agent, such as Quinidine or Inderal, should be considered. It is quite conceivable that **no** antiarrhythmic is needed. It has been my observation that many patients are started on antiarrhythmic drugs in the post-myocardial infarction setting and are continued on them indefinitely when the indication for their

use is long since gone. If there is a strong indication for its continued use, some authors have suggested the continued use of low steroid doses, in order to mask the symptomatology. Using steroids and decreasing the dose might be efficacious but might require a return to a monitoring situation for a time, to establish the optimal dose.

In general, the treatment of this condition is merely discontinuing the procainamide. Occasionally, in the severely ill patient, and in those with pericarditis or pleural effusion, the use of steroids would seem indicated.<sup>10</sup> It may be necessary to carry these patients on decreasing doses of steroids for a number of months or even a year.

**Conclusion:** One of the basic tenets of a good medical practice is to "Do no harm!" Drug interrelationships and host-drug reactions should be of increasing concern to physicians. In order to emphasize the possible side-effects from an increasingly frequently used drug, five cases of lupus-like syndrome, secondary to procainamide use, seen in the last three years, are presented. These patients presented in a variety of ways. The differential diagnosis may be a challenge to the clinician. Many of these patients may be suspected of having endogenous depression, occult malignancy, or an ill-defined virus infection. A brief review of the recent literature is included. The author reviews the evi-

dence for and against the theory that drugs can unmask a latent lupus erythematosus diathesis and he speculates on how these drugs might initiate this syndrome. A plea is made for physicians to periodically re-evaluate and re-assess the need for continuing medication use in the care of the chronically ill patient.

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# MINUTES OF THE COUNCIL MEETING

9:30 A.M.  
Saturday, January 12, 1974

Ramada Inn  
Sioux Falls, South Dakota

The meeting was called to order at 9:30 a.m. by Dr. Fred Leigh, Chairman of the Council. Those present for roll call were Doctors T. H. Sattler, R. E. Van Demark, G. E. Tracy, A. P. Reding, Fred Leigh, John B. Gregg, W. R. Taylor, David Seaman, G. Robert Bartron, Bruce Lushbough, Harvard Lewis, B. J. Begley, Warren Jones, P. K. Aspaas, R. G. Nemer, James Ryan, Eldon Bell, Clark Johnson and J. F. Barlow. Also in attendance were J. A. Muggly, M. D., Robert Hayes, M. D., Mr. Neil Sutherland, and Mr. Dick Erickson. Dr. Leigh welcomed the guests and alternate councilor.

Dr. Begley moved that the minutes of the previous meeting be accepted as published. The motion was seconded by Dr. Seaman and carried.

Dr. Leigh read a letter from Dr. Harold Frost requesting that his name be withdrawn as councilor from the Black Hills District. Mrs. Butler reported on a telephone conversation which she had with Dr. T. E. Mead at which time Dr. Mead indicated the Black Hills District would submit the names of Dr. Joseph Hamm and Dr. Russell Harris for councilor and alternate councilor; however, he did not indicate which one was being recommended for each position. Dr. Begley moved that the Council refer this matter back to the Black Hills District and request that they submit in writing names for the councilor position and names for the alternate councilor positions. The motion was seconded by Dr. Bartron and carried.

The Council considered the recommendation for alternate councilor from the Brookings-Madison District. Dr. Bartron moved that the Council name Dr. R. G. Belatti as alternate councilor for the Brookings-Madison District. The motion was seconded by Dr. Reding and carried.

Mr. Johnson reported on the meeting of the Commission on Legislation and Governmental Relations and the dinner which the Commission hosted for the Appropriations Committee in Pierre. He also reported that the medical school budget has been included in the general appropriations and therefore only requires a 51 percent vote to pass. Mr. Johnson also briefly reported on other legislation affecting the medical profession which may be introduced.

The Council considered the report of the Commission on Internal Affairs, Communications and Liaison, the report of the Budget and Audit Committee and the report of the Finance Committee. Dr. Tracy moved that the Council accept the proposed budget for 1974-75. The motion was seconded by Dr. Lushbough and carried.

There were no reports from the Commission on Scientific Medicine or the Commission on Medical Service.

Dr. Tracy reported on the periodic screening program and meetings which he has attended with members of the State Welfare Department concerning this program. He indicated that the proposal would break-down the screening program into three age groups: birth to 2 years, 3 years to 12 years and 13 years to 18 years. He also requested the Council's preference as to charging a flat fee for these examinations or utilizing a Relative Value unit schedule. Dr. Sattler moved that the Council extend a vote of confidence to the Committee considering this proposal and that the Council indicate its preference in utilizing a Relative Value unit schedule in charging for these exams. The motion was seconded by Dr. Lushbough and carried. Dr. Tracy stated that the final meeting would be held January 30 and following that meeting a final proposal will be submitted to the Council for their consideration and approval.

Mr. Johnson briefly reported on the progress of the Association building for the Council's information.

Dr. Muggly reported on the progress of the Foundation Committee and requested that the Council accept the proposed change in Article II of the Foundation Articles of Incorporation and also accept the proposed Bylaws. Dr. Taylor moved that the Council accept Article II as proposed by the Foundation Committee and the Bylaws. The motion was seconded by Dr. Nemer and carried.

The Council considered the report of Mr. Johnson regarding government reorganization. Dr. Bell moved that the Council Chairman appoint a Committee chaired by Dr. G. Robert Bartron to work with the other licensing boards in the state in establishing a satisfactory mechanism for operation of these boards. The motion was seconded by Dr. Tracy and carried.

Dr. Tracy briefly reported on behalf of Dr. Heinrichs the progress made in continuing medical education in South Dakota for the Council's information.

Mr. Johnson read a letter from Dr. E. W. Sanderson, Chairman of the Relative Value Study Committee, informing the Council of the progress this Committee has made and indicating that the Committee intends to have a new Relative Value Study for the state of South Dakota prepared by spring of 1974. Dr. Begley moved that the Council accept this report. The motion was seconded by Dr. Seaman and carried.

Mr. Johnson announced that the April Council meeting could not be held in Aberdeen inasmuch as rooms are not available. Dr. Taylor moved that the April Council meeting be held at Chief Gall Inn in Mobridge on Friday and Saturday, April 19 and 20, and that wives and families be invited to attend. The motion was seconded by Dr. Gregg and carried.

Dr. Gregg showed a film on Indian health care in South Dakota. Following a discussion Dr. Gregg moved that the Council assign the matter of Indian health care to the appropriate Commission of the South Dakota State Medical Association or to a special task force immediately with instructions to investigate this problem at once, formulate suggested policy for the SDSMA to follow and report back to the Council of the SDSMA at its next scheduled meeting. He it further moved that the agency of this Association delegated to investigate this matter make contact soon with an agency such as RMP to seek funds to assist in the completion of this project. The motion was seconded by Dr. Tracy and carried. Dr. Tracy moved that a special committee be appointed by the President of the State Association to investigate and recommend some possibilities for immediate action concerning Indian health care. The motion was seconded by Dr. Lewis and carried.

Mr. Erickson briefly addressed the Council and indicated that he will attend one Council meeting a year and that Mr. Johnson will be invited to attend one Blue Shield Board meeting each year as a continuing liaison between the two groups. He stated that a bill may be introduced into the 1974 legislature allowing chiropractic services to be included under Blue Shield. Dr. Sattler urged the Councilors to speak to their local legislators concerning this proposal and urging the legislators to vote against legislation of this type.

Dr. Sattler reported on the South Dakota Public Health Trust which has been established as a result of a suit won by the state against Charles Pfizer Company in the amount of \$100,000. Dr. Sattler, as president of the State Association, will serve on a committee which is to designate the use of this money. Dr. Sattler requested that the Councilors submit any recommendations they may have regarding the use of this money in promoting health care for South Dakota to the executive office.

The Council considered the request from the State Health Department for approval of their x-ray survey form. Dr. Begley moved that this matter be referred to the Commission on Medical Service for study and recommendation. The motion was seconded by Dr. Bell and carried.

The Council considered the appointment of the members of the South Dakota Medical School Endowment Association Board of Directors. Dr. Taylor moved that the Council name the following physicians to the Board of Directors for a one year term: G. E. Tracy, M.D.; B. O. Lindbloom, M.D.; Warren Jones, M.D.; E. H. Peters, M.D.; T. H. Willcockson, M.D.; C. R. Herbrandson, M.D.; and J. B. Gregg, M.D. The motion was seconded by



Dr. Nemer and carried.

The Council was informed that the term of G. Robert Bartron, M.D. on the State Board of Medical and Osteopathic Examiners expires on July 1, 1974, and considered names to be submitted to the Governor for his consideration in making this appointment. Dr. Van Demark moved that the Council submit Dr. Bartron's name for reappointment. The motion was seconded by Dr. Seaman and carried. Dr. Ryan moved that Dr. Sattler's name be submitted. The motion was seconded by Dr. Reding and carried. Dr. Reding moved that Dr. Anton Petres' name be submitted. The motion was seconded by Dr. Taylor and carried.

Dr. Sattler discussed the work of the State Utilization and Insurance Review Committee and the expanded role this Committee will be undertaking. The Council directed the executive office to send a letter of thanks and commendation to this Committee for their efforts on behalf of the physicians of South Dakota.

Dr. C. A. Johnson moved that Dr. C. W. Ihle, deceased, be accepted as an honorary life member of the State Medical Association. The motion was seconded by Dr. Lushbough and carried. Dr. Ryan moved that Dr. B. P. Nolan be accepted as an honorary life member of the State Medical Association. The motion was seconded by Dr. Van Demark and carried.

The Council reviewed the letter from the American College of Radiology concerning Dr. James P. Steele's nomination to the AMA Council on Medical Education. Dr. Tracy moved that this letter be accepted. The motion was seconded by Dr. Bell and carried.

Dr. Bell discussed a means of encouraging voluntary health agencies to seek Association support prior to undertaking public relations programs or activities relating to health. The Council directed the executive office to contact various health related agencies and encourage the re-establishment of liaison.

The Council considered nominations for the Distinguished Service Award and the Community Service Award. Dr. Sattler moved that a three-man committee of past recipients of these awards be named to review the membership of the State and make recommendations for these awards. The motion was seconded by Dr. Taylor. Dr. Bartron moved that the motion be amended to include that all nominations for the 1974 awards be available for the Council's consideration at the April Council meeting. The amendment was seconded by Dr. Begley and carried. The motion as amended was passed. The executive office was directed to notify the various districts and the members of the Association of the deadline for filing these nominations in the fall of each year so that in future years these nominations can be considered at the winter Council meeting.

The Council considered a letter from the United States Chamber of Commerce requesting the South Dakota State Medical Association to reinstate its membership in the Chamber. Dr. Tracy moved that the State Medical Association continue the same status quo. The motion was seconded by Dr. Bartron and carried.

The Council held a discussion on the establishment of a "think tank." Dr. Tracy moved that Dr. Begley chair a committee to develop a "think tank" type program several times a year. The motion was seconded by Dr. Sattler and carried.

Dr. Sattler discussed the establishment of a Committee to evaluate the impact of a four year degree granting medical school on the Association, the Health Department and other associations and the private practice of medicine. Dr. Sattler moved that the Council study and recommend a proposal to coordinate health planning in the state of South Dakota. The motion was seconded by Dr. Tracy and carried.

Mr. Sutherland reviewed the events of the AMA clinical meeting and discussed the action taken by the AMA House of Delegates concerning PSRO.

Dr. Barlow discussed the proposed proficiency testing program of the American College of Pathology. Dr. Nemer moved that the Council approve the concept of this proficiency testing program. The motion was seconded by Dr. Seaman and carried.

Dr. Tracy briefly reviewed several legislative proposals which have been endorsed by the South Dakota Pediatric

Society for the Council's information.

Dr. Hayes reviewed three bills which may be introduced in the 1974 legislature which affect medicine. These bills were the Ambulance Service Bill, the South Dakota Distressed Food Act and amendments to the Physician Assistant Law. Dr. Bartron moved that the State Medical Association go on record as opposing the issuance of unrestricted BNDD numbers to physician assistants. The motion was seconded by Dr. Van Demark and carried.

Mr. Johnson reported that the proposed amendment to the High School Activities Bylaws which would permit chiropractors to give high school athletic physicals failed to receive the two-thirds vote necessary for passage. The executive office will send additional material to the Association members for distribution throughout the state so the physicians will be prepared to oppose this amendment if it is reintroduced next year. The Council discussed other problem areas concerning the practice of chiropractic. Dr. Bell moved that the Council designate members of the Medical Association who serve on the Interprofessional Health Council to meet with this Council and discuss these problems. The motion was seconded by Dr. Reding and carried.

Mr. Johnson requested that physicians, particularly those in the Sioux Falls and Yankton areas, who are willing to teach at the medical school if a degree granting school is established, submit a letter indicating their willingness to teach. Mr. Johnson has received requests from legislators who would like to receive specific names of physicians who will teach. These letters should be addressed to the Legislative Research Council, Pierre, South Dakota, and sent to Mr. Johnson at the Holiday Inn, Pierre.

The meeting adjourned at 3:30 p.m.



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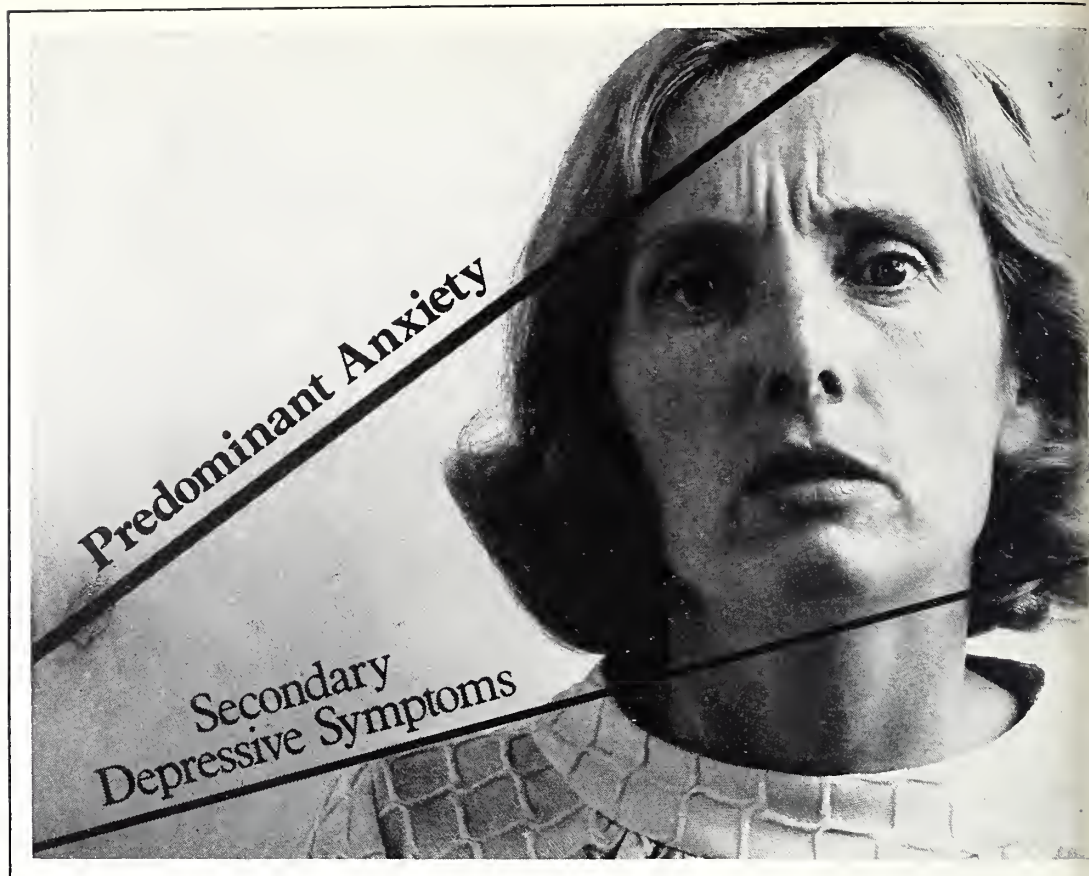


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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by  
the Department of Pathology of the Hospital and of the School of Medicine  
of the University of South Dakota*



## 12-MONTH-OLD CHILD WITH A PALPABLE ABDOMINAL MASS

John H. Hoskins, M. D. FACU\*  
*Urologist — Discusser*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist — Editor*

### CASE NO. 73-3077

This 12-month-old child was admitted for a left abdominal mass.

The patient was a product of a full-term, normal, spontaneous delivery. There were no complications of pregnancy. As a newborn, a left abdominal mass in the region of the kidney had been palpated. An intravenous pyelogram showed non-function on the left side, and a multilocular cystic or congenital hydronephrosis of the ureteropelvic junction were discussed as possibilities. A percutaneous puncture of the left renal mass revealed only a few cc's of clear fluid. Cystoscopic exam revealed a normal urethra and bladder and the left ureteral orifice was patulous. A catheter did not reach the left kidney pelvis and injected dye showed a dilated ureter.

The patient showed no abnormalities in development and had undergone a left inguinal herniorrhaphy repair the previous summer. At the time of the inguinal incision, "fairly good cortical tissue" was felt but not seen. The child had had normal growth and development. There of systems. The patient had no family history of renal was no significant past history or information in the review developed, well nourished white male. Pulse 100 per minute disease or tumor. Physical examination revealed a well and regular. Respirations 24 per minute and regular. Temperature 97°F. Blood pressure 140 systolic over 70 diastolic.

**PHYSICAL EXAMINATION:** Examination of the head and neck was unremarkable. The lungs were clear to auscultation and percussion. The heart sounds were regular and there were no murmurs. Examination of the abdomen revealed no tenderness or spasm. In the region of the left kidney was a palpable, but apparently non-tender mass, which was movable and approximately 7 cms. in diameter.

No other organs were palpated. The external genitalia were normal. The rectal examination was negative. Neurologic examination was unremarkable. A chest film showed minimal central infiltrates. The patient was discharged and readmitted for exploration of the left kidney.

**LABORATORY DATA:** Urinalysis; yellow, clear. Specific gravity 1.018. Negative for protein, glucose, reducing substances, ketone bodies, bile and hemoglobin. A sediment showed no microscopic abnormality. Hemoglobin 13.5 gms/dl. Red count 4.69 million/mm<sup>3</sup>. Hematocrit 37 Vols/dl. MCH 28 micromicrograms. MCV 78 cubic micra. MCHC 37%. Total leukocyte count 10,000/mm<sup>3</sup> with 29% segmented neutrophils, 2% eosinophils 67% lymphocytes and 2% monocytes. The red cells were normochromic, normocytic and the platelets were normal in number and morphology. An intravenous pyelogram revealed non-visualization of the left kidney. There was a prominent right kidney with mild dilation of the upper collecting system. This could have been secondary to an old inflammatory change. The size of the kidney could have been secondary to compensatory hypertrophy. A left retrograde pyelogram showed the left ureter to end blindly at the region of L-2.

**DR. HOSKINS:** This was a 12-month-old child who was admitted for a left abdominal mass. The delivery and pregnancy were unremarkable. Several years ago, I came upon an article that showed a series of over 650 children with abdominal masses. 45% of these abdominal masses were surgical problems and 50% of the surgical problems had to do with masses in the area of the kidney. 40% of these renal masses were hydronephrosis, 30% were Wilm's tumor, 22% were cystic disease of some sort, and 8% a collection of various things. Therefore, in this surgical group, there were 281 patients and half of them had masses in the region of the kidney. I might point out that 48 patients with non-renal mass lesions had neuroblastomas. Therefore, if we have a palpable abdominal mass in the child, we have a po-

\*Urologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

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tentially very serious problem and it is frequently in or near the kidney.

The protocol is not at all clear as to what evaluation was done at the time of birth about an abdominal mass. There is mention that the patient had "fairly good cortical tissue" at a herniorrhaphy repair the preceding summer. I am not sure of the time sequence.

Later there was an intravenous pyelogram which demonstrated non-function of the kidney on the left side. The possibility of a cystic change in the kidney or a congenital hydronephrosis due to ureteropelvic junction stricture was questioned. These are two very likely possibilities. We must also consider a Wilm's tumor and possibly a neuroblastoma. I do not have further description of the mass in the left renal region and we are left with a non-visualization of the left kidney. A puncture yielding only a few cc's of fluid was done. Cystoscopy was unremarkable and the left ureteral orifice was patulous. I wonder, after the puncture, since only a few cc's of fluid was obtained, whether this was a cystic kidney or whether the pelvis was punctured. In the latter case a solid tumor, such as Wilm's tumor, cannot be ruled out. What might have been done at the time of the cystoscopy was an attempt at transillumination of the renal mass. Hydronephrosis or cystic disease might transilluminate. This also could have been performed on physical examination and could have been performed on the infant shortly after birth.

I would like to comment on the palpation of the kidney through the inguinal incision. I tested myself to see what the gross findings of the kidney at operation were after I had done physical examinations on the patients and decided what I was going to find. Even after entering the peritoneal cavity and feeling the kidney through the peritoneum, I tried to assess what the underlying mass was like. I found that when the kidney was exposed, I had an embarrassingly poor correlation. My point is that this examination through the inguinal incision, like external palpation, is not very adequate.

The remainder of the first examination was negative, and certainly does not suggest a patient with a malignant process. The blood pressure is slightly elevated, however. There was no mention of mass at the time of herniorrhaphy. There is a 7 cm., non-tender, movable mass, described in the left kidney later.

\*DR. LLOYD SWEENEY: Was that 7 cm. mass at birth or at the age of a year?

DR. HOSKINS: I do not know, but I presume it was

at the physical examination preceding operation.

DR. BARLOW: Yes, that is correct.

DR. HOSKINS: In regard to laboratory data, the absence of hemoglobin in the urinalysis does not shed much light on the problem. Many solid tumors of this age group do not show hematuria. On the other hand, any abnormality of the kidney is subject to trauma and can show hematuria—hydronephrosis, for example. The hemogram was unremarkable. An intravenous pyelogram revealed non-visualization of the left kidney. There was a prominent right kidney with mild dilatation of the upper collecting system. Old inflammatory changes and compensatory hypertrophy were suggested as possibilities. A left retrograde pyelogram showed the ureter to end blindly at the region of L-2. The enlargement of the opposite kidney could certainly have been due to compensatory hypertrophy. However, cystic disease of the kidney is frequently bilateral and infection in one kidney often leads to infection and inflammatory change in the opposite kidney. Even in unilateral cystic disease of the kidney in a child, there are often reports of abnormality in the opposite kidney on careful examination. The retrograde pyelogram is compatible with a ureteropelvic junction stricture and certainly a hypoplastic ureter is seen in so-called multicystic or unilateral cystic disease of the kidney. A cystogram might have been helpful if there was reflex on the right side explaining some of the hydronephrotic changes on the opposite side from the mass.

I feel this patient had so-called unilateral, multicystic disease of the kidney of the dysplastic type. This is so-called Potter type II. If you remember your embryology, the ureter grows out of the mesonephric duct as the ureteric bud to meet the metanephric blastema. The metanephric blastema cups over the ureteric bud and the metanephric blastema becomes the secretory portion of the kidney while the ureteric bud branches and becomes the collecting portion of the kidney. There are many theories of cystic disease of the kidney, but one theory is that there is some lack of hook-up between the two embryologic portions of the kidney—the ureteric bud and metanephric blastema. However, Potter and Osathanondh did microscopic dissections and found that there were no obstructive elements in cystic disease and this failure of hook-up was not the case. There were always connections between the two origins of the kidney. Potter and her associate divided the cystic diseases of the kidney according to the portion of the kidney that was dilated. The first group, Potter type I, was due to dilatation in the interstitial area. This is a diffuse bilateral cystic

\*Director, Family Practice Residency Program, Sioux Falls.



disease which is rare and presents in infants who usually die within a few weeks. Potter type II, is a multicystic kidney which is often unilateral. This is what we are dealing with in our case today. Potter type III involves the interstitium and ampullary portions and is the classic polycystic disease of adults. This has a dominant pattern of heredity and can be unilateral, but is usually bilateral. Type IV Potter is due to obstruction with dilatation throughout all portions of the collecting system. The obstruction is often urethral. The degree of cystic dilatation depends on the degree of obstruction.

Type II, which is what this child has, is usually unilateral and involves the whole kidney. There is usually no family history. The vasculature is often very abnormal. Sometimes they do not even find the arterial supply to the kidney. The pelvis is often completely absent. The ureter can be absent. But, sometimes there is dilatation, most often of the proximal portion of the ureter. It is not unusual to find the distal portion of the ureter dilated. Again this would fit with what we have in this case. The cysts often are large and often can transilluminate light. The prognosis in this condition depends on the condition of the other kidney. The disease may be bilateral. Williams found changes in the so-called normal kidney representing dysplasia. There is also a tendency to mild hydronephrosis and ureteropelvic junction obstruction. Therefore, it is very important to evaluate the opposite kidney.

#### DR. JOHN HOSKINS' DIAGNOSIS

*Unilateral Multicystic Kidney (Potter Type II).*

DR. BARLOW: Dr. Begley, would you like to comment on this case?

\*DR. BEGLEY: I would like to show the x-rays. As has been suggested by Dr. Hoskins, the work-up of this case is slightly different because this is an administrative case. The child was born out-of-wedlock and finally adopted. There were two hospitals and several different physicians involved. The child had two names. Therefore, trying to piece this case together with several charts is somewhat difficult.

\*\*DR. HARTZELL: I would like to make a comment about feeling the "cortical tissue" through an inguinal incision. This is highly unreliable.

DR. BEGLEY: With all the administrative prob-

lems, I certainly lost track of this infant after consultation as a newborn. One day I was asked to come into the operating room when he was having his hernia repaired five or six months after birth to examine this enlarged kidney through an inguinal incision. I will agree that palpation of the kidney is quite unreliable. I should also say that this mass did not transilluminate at birth even though it was cystic. One way to determine its nature was to put a needle in it. We got only a few cc's and injected the mass. This gave us little added information. I had done cystoscopy and retrograde on the first day of birth and thought this might be a ureteropelvic junction stricture. Because of all the problems and because I did not feel that there had to be emergency surgery, we lost track of the infant for a while. On the intravenous pyelogram and retrograde, there was some dilatation of the calyceal pattern and some suggestion of narrowing of the right ureteropelvic junction. After the patient became adopted and I had re-examined him, we decided to do an exploratory laparotomy. I did not do a cystogram. The right ureteral orifice appeared normal. The child had no urinary infections and was thriving well. I made a left flank incision and found a "cluster of grapes." The ureter could be traced to within several cms. of this cystic mass, but ended blindly before the mass. There was a renal artery and vein.

\*\*\*DR. W. ANDERSON: This mass actually became less defined and actually seemed to become smaller as the child grew.

DR. BEGLEY: Yes, that is true. This is probably because of the growth of the infant. It certainly did not enlarge.

DR. BARLOW: The multicystic mass which is characteristic of a multicystic kidney is the bunch of grapes that Dr. Begley described. This is really a Potter type II lesion or so-called dysplasia of the kidney or multicystic kidney. This disease can be unilateral, bilateral or can involve part of the kidney. The mass is not reniform (Fig. I). Microscopic sections are characteristic. This type of lesion may occur without cysts, but usually has tubules surrounded by spindle cells which appear like smooth muscle (Fig. II). Another characteristic finding is foci of metaplastic cartilage (Fig. III). There is no familial tendency of this entity. The following statement is from Kissane and Smith's book, *PATHOLOGY OF INFANCY AND CHILDHOOD*. "Unilateral total renal dysplasia is not only the commonest abnormal mass palpable in newborn infants, but constitutes by far the commonest abnormal abdominal mass palpable in newborn infants."

\*Urologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

\*\*Urologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

\*\*\*Pediatrician, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.



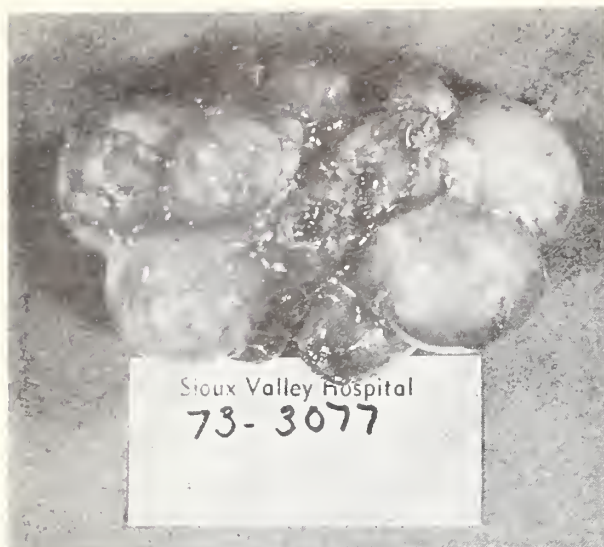


Figure I

Multicystic kidney removed at operation. Note that the mass is not reniform.

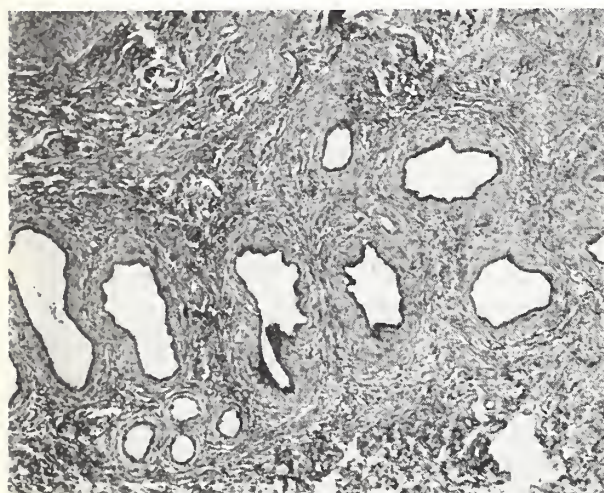


Figure II

Tubules surrounded by collars of smooth muscle embedded in fibrous tissue.

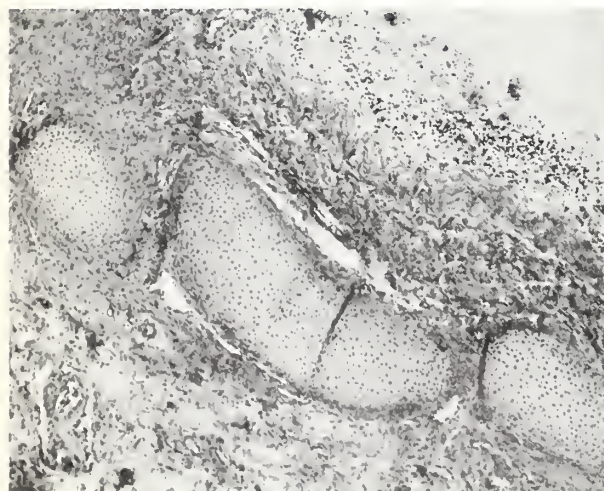


Figure III

Foci of metaplasia cartilage.

DR. BEGLEY: Statements like this are highly misleading. Dr. Flocks of the University of Iowa usually was really annoyed at such statements. Hydronephrosis is a much more common cystic lesion in children and newborns.

DR. W. ANDERSON: Perhaps at birth hydronephrosis is not as common?

DR. BEGLEY: I don't think so. I have felt many more cases of hydronephrosis than I have multicystic kidneys. I think I have seen only three multicystic kidneys since I have been here in Sioux Falls. I have seen many more cases of hydronephrosis.

DR. BARLOW: The following is a classification of the abnormalities of the kidneys with cysts.

#### Anomalies of Differentiation of Renal Tissue

1. Dysplasia (Type II Potter).
  - A. Total.
  - B. Segmental.
  - C. Focal.
2. Polycystic Disease.
  - A. Adult Type (Type III Potter).
    1. Cystic disease associated with Hepatic Fibrosis.
  - B. Infantile Type (Type I Potter).
3. Simple Cysts.
4. Multilocular Cysts.
5. Medullary Cysts.
  - A. Sponge Kidney.
  - B. Medullary Cystic Disease with Uremia.
6. Other Developmental Cysts.
  - A. Retroperitoneal Cysts of Urogenital Origin.
  - B. Dermoid Cysts and Renal Teratomas.
7. Retention Cysts.
8. Cysts of other than Nephric Origin not necessarily developmental.
  - A. Calyceal Diverticula.
  - B. Pericalyceal Lymphangiectatic Cysts.
  - C. Perinephric Cysts.

The Potter type I lesion, the infantile polycystic kidney is inherited as a recessive trait, is usually bilateral with enlarged kidneys with multiple cysts and clefts. There are also cysts in the portal spaces of the liver. This is usually fatal in infancy. The Potter Type III is adult polycystic kidney inherited as a dominant trait. The disease is usually not manifested in childhood, but presents as progressive uremia in the adult. These are bilaterally enlarged kidneys. There are often cysts in the liver, spleen, pancreas, lung, and congenital berry aneurysms of the brain. There is a form of this associated with congenital hepatic fibrosis.

DR. W. ANDERSON: How early can you diagnose the adult type of polycystic disease?



DR. BEGLEY: I think it is variable, but I have seen it in children. This is usually found as a palpable abdominal mass.

DR. JAQUA: Do the decortication operations or cyst puncture techniques work?

DR. BEGLEY: No, I don't think anyone is doing them any more. They cause a lot of trouble for the patient and are not of much value even though the enlarging cysts are what compromise the functioning renal tissue.

DR. BARLOW: I would just like to finish my discussion concerning medullary cystic disease of the kidney for completeness. This is often called the sponge kidney. The disease is usually bilateral and there is resulting calcification which can be seen by the radiologist. There are two forms, one of them is asymptomatic and there is normal life expectancy, although the patient can develop polynephritis or stones. The other form is manifested by early anemia and uremia in childhood.

\*\*DR. ORTMEIER: What do you advise a patient with one kidney or a congenitally defective kidney in regard to sports activities? I had a patient who had a horseshoe kidney and was a wrestler who developed hematuria.

DR. HOSKINS: Well, I try to tell patients with one kidney that they should try to live a normal life, but motorcycle racing and broncho busting are not recommended. I am a great football fan, but I hesitate to recommend football.

\*\*\*DR. MAGNUSON: How many times do you see damage to a kidney from football?

DR. BEGLEY: Oh, we see two or three serious injuries a year.

DR. HOSKINS: These kidneys are often abnormal. Trauma from contact sports often will cause hematuria in an abnormal kidney.

DR. W. ANDERSON: If the patient has hematuria after sports activity, is this always renal in origin?

DR. BEGLEY: If a patient has gross hematuria, I have always treated it that way with bed rest for ten days and no activity for several weeks.

DR. ANDERSON: What about microscopic hematuria and tenderness?

DR. BEGLEY: Well, tenderness from kidney trauma is not so common.

DR. HARTZELL: I might point out that hematuria after a vigorous exercise is not uncommon.

DR. BARLOW: Yes, I am not sure anybody should obtain urinalysis after a patient has done vigorous exercise. This has been done before and all sorts of abnormalities occur. This could be very misleading for the unwary.

DR. HARTZELL: Yes, I remember a famous track star who after running two-mile races developed hematuria consistently.

DR. W. ANDERSON: I would like to ask one more question. How common is Wilm's tumor. I haven't seen one in 25 years of practice?

DR. BEGLEY: I have had a rather unusual experience. I haven't seen one either.

DR. HOSKINS: I have seen four since I have been here. This is not a common entity.

## FINAL ANATOMIC DIAGNOSIS MULTICYSTIC KIDNEY, POTTER TYPE II

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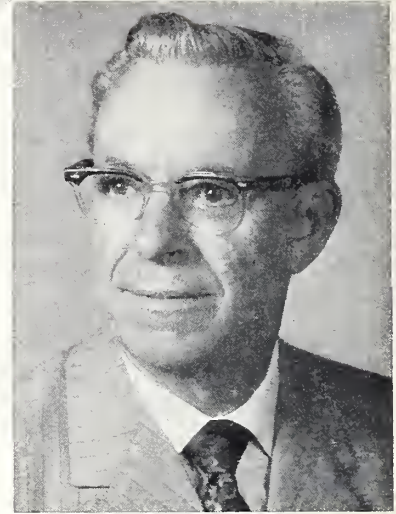
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\*\*\*Intern, Sioux Valley Hospital.

# P R E S I D E N T ' S P A G E



There are several areas of interest that warrant brief comment at this time:

## CONFERENCE ON HEALTH CARE DELIVERY —

This conference held in February in Vermillion, sponsored by the Student American Medical Association, the Student Health Coalition, and the South Dakota Regional Medical Program, was an excellent example of student interest and concern regarding South Dakota's health care problems. Presentations and discussions by many state and national participants covered the entire spectrum of national, state, and local factors that influence medical care and medical care delivery. The focus was on student awareness of the need for their participation in developing the best medical care and delivery system feasible in South Dakota. One highlight for me was Dr. Gus C. Torkildson's enlightening and stimulating discussion with the students, reviewing his twenty-four years of solo medical practice in South Dakota—a job well done!

## DEGREE-GRANTING MEDICAL SCHOOL—Educational Participation by South Dakota's Physicians—

With the establishment of the degree-granting medical school, the cooperation of all members of the South Dakota State Medical Association will take on new importance. There will need to be commitment to participate actively in the many teaching opportunities, which will vary from occasional conference or symposium participation to regular teaching assignments or preceptorship programs. With the third and fourth years to be completed in South Dakota, it will be necessary for physicians to be involved in the expanded curriculum if we are to make the program an ever-broader educational opportunity for our students.

## SOUTH DAKOTA MEDICAL SCHOOL ENDOWMENT —

Addition of the third and fourth years of training should be an added incentive to development of support for the school. The endowment fund now has its greatest opportunity to aid medical education. The challenge to our membership will be to provide the monetary contribution that will enable the fund to make further contributions to medical education in South Dakota.

## MEDICAL SCHOOL BEQUESTS AND GIFTS —

These will help provide financial support for areas for which funding is not readily available, but are essential to enlarging and improving the total medical educational experience in South Dakota. The recently announced one-million-dollar individual gift to the University of South Dakota School of Medicine is a tremendous beginning of commitment to the belief in the medical school and the benefits to our citizens which will ensue from its establishment.

Sincerely,  
T. H. Sattler, M.D.  
President, South Dakota  
State Medical Association



# ECONOMICS



## WEINBERGER CONDEMNS MEDICARE AND MEDICAID PATIENTS TO SECOND-CLASS MEDICINE\*

by Llewellyn H. Rockwell, Jr.\*\*

**Private Practice**, the journal of socio-economic medicine published by the Congress of County Medical Societies, has announced its total opposition to the recently announced drug plans of the Department of Health, Education and Welfare. As outlined by Secretary Caspar W. Weinberger, HEW would limit reimbursements for prescription drugs provided under Medicare and Medicaid to "the lowest cost at which the drug is generally available." This would usually be the so-called generic drug rather than a brand-name pharmaceutical.

Testifying on December 19th before Senator Edward Kennedy's Senate Health Subcommittee, Mr. Weinberger claimed that this would save taxpayers \$25 to \$60 million dollars between now and the fiscal year ending June 30th.

"We deplore this kind of cheap-drug policy," said Publisher Francis A. Davis, M.D. "It condemns Medicare and Medicaid patients to second-class medical care. The whole notion is based on the mistaken idea that chemical equivalency equals therapeutic equivalency. There are many reasons why this is not so. This kind of short-sighted policy, while it may save some money in the short run, will do so only at a very high cost to the health of American people."

Writing in **Private Practice**, William H. Havener, M.D., of Columbus, Ohio, has noted that:

"The concept of generic prescribing may be defined as the belief that identification of a drug by its chemical name is accurate and sufficient for medical

purposes. Generic prescribing is of current legislative interest because of the belief that great economy is possible through the purchase of an accurately named chemical (a generic equivalent) instead of a brand-name medication. Certainly all sensible taxpayers want economy in government, including money spent on health care. However . . . the medical profession opposes legislation directing that the least expensive generic equivalent shall be substituted in the filling of a medical prescription.

"How can this apparently inconsistent position be justified? The basic fact is that generic equivalence is a myth. I will cite an illustration of this myth which will be familiar to everyone, then will discuss the problem from a medical standpoint.

"First, let us specify a substance by the accurate generic name 'carbon'. What do we mean? It could be a polished diamond or a chunk of coal. They are generic equivalents, but they are certainly not the same. Since I am an ophthalmologist, I shall use eye drops to illustrate why the concept of generic equivalence is a myth. Let us assume that the name and concentration of a chemical have been designated. Are all eye drops the same if they contain this amount of the chemical?

"Let me outline a few other things that matter before you put this eyedrop in your eye:

A) pH (acidity or alkalinity).

1) Determines degree of dissociation of alkaloids and therefore their availability to penetrate the eye.

2) Related to stability, i.e., how long till it deteriorates and is unusable.

3) Important factor in comfort—whether the

\* News release issued January 1974.

\*\*Editor, **Private Practice**, 3035 N.W. 63rd, Suite 299, Oklahoma City, Oklahoma 73116.

drops hurt.

B) Sterility.

Use of unsterile generic equivalent during eye surgery could destroy eye through infection.

C) Preservatives.

A variety of chemicals in various concentrations may be added to help retard growth of bacteria. Preservatives may have toxic effects to the eye, improve or hinder absorption of the drug, and are of variable effectiveness. Many incompatibilities exist, in which the preservative may inactivate the medication.

D) Particle size (of suspension).

Larger particles offer less available drug, sediment out of suspension, and may be mechanically irritating.

E) Choice of salt.

The active drug may be combined with a variety of ions, e.g., pilocarpine hydrochloride, nitrate, or salicylate. Each has different incompatibilities and solubilities.

F) Antioxidants and stabilizers.

Addition of appropriate substances will greatly extend the expiration date of unstable compounds. Conversely, their absence permits rapid deterioration.

G) Viscosity.

A viscous vehicle will greatly prolong contact of the eye-drop with the eye. Some types dry to a protective film on the eyelids and are unusually effective in treatment of lid infections. Other vehicles may be greasy and can be cosmetically or functionally objectionable.

H) Solubility relationships.

A medication form which is more soluble in the vehicle than in the corneal surface will stay in the vehicle and will not be optionally absorbed by the eye.

I) Wetting agents.

Detergent-like additives can greatly enhance drug penetration.

J) Combinations.

Mixtures of active drugs may give an improved effect or have advantages of convenience or economy. They also increase the chance of allergy or other toxicity.

K) Drug form.

Choice of suspension or solution may have advantages of stability or penetration of the medication.

L) Tonicity.

Hypertonic or hypotonic solutions may irritate or even destroy the delicate cells of the eye. I

have seen blindness result from irrigation of the interior of the eye with solutions of improper salt concentration.

M) Packaging.

Various containers have advantages of ease of use, breakage resistance, spill-proofing, chemical inertness, size economy, protection from light, etc.

Medications other than eye drops also have different vehicles:

A) Taste, smell, color, consistency are important in determining the acceptability of the medication to the patient. Will the child (or adult) take his medicine?

B) Purity may vary greatly. U.S.P. requirements specify 85 percent purity for penicillin. Many reputable manufacturers achieve 98 percent purity. "Penicillin" allergy is often due to impurities.

C) Coating of capsules may protect medication against destruction by stomach acids. Prolonged medication effect is achieved by mixtures of granules with coating which will dissolve at various rates. Faulty coatings may not dissolve at all, permitting the pill to pass through the body with no medical effect at all.

D) Absorption of medication from pills depends on how rapidly they dissolve, the choice of salt used, the stability of the drug in digestive juices, whether it becomes absorbed upon food residues, and a variety of other such factors. As a well recognized example, Chloromycetin (Parke-Davis brand name) is a very effective antibiotic, whereas all other generic equivalents of chloramphenicol (generic name) fail to achieve comparable blood levels of the antibiotic.

E) Deterioration to ineffective or toxic substances may occur. Tetracycline (an antibiotic) dispensed in relatively acid capsules will slowly transform into a deadly kidney poison. Without appropriate (and costly) safeguards, problems do occur.

Because the medical effect of a given chemical is so greatly dependent upon the form in which it is dispensed, the concept of 'generic equivalence' is truly an imaginary oversimplification.

"There exists hardly anything that some unscrupulous man cannot make a little more poorly and sell a little cheaper. Long after the joy of low price passes, the bitterness of low quality remains."

"It is understandable, but tragic," concluded Dr. Davis, "that Secretary Weinberger has chosen to believe that the cheapest drug product on the market would perform as well as the most expensive one. He has applied a concept to the health of Medicare and Medicaid patients that he would rightly hesitate to use with meat, Scotch, or golf balls."



# Letters to the Editor

## Letter to Editor

Gentlemen:

I would like to express my sincere thanks for your having selected me to receive the South Dakota State Medical Association Scholarship. It's difficult to believe that any one student in the freshman class can realistically be singled out for academic recognition when having a "straight A" average means only that you're in the top 50 percent of the class. But, be that as it may, I do believe that I can qualify as being "outstandingly" appreciative of your generosity.

Also, please accept my thanks for all that you and your organization have done to make the four-year medical school a reality.

Sincerely,  
Mark L. Berg

## SOUTH DAKOTA CHAPTER AMERICAN COLLEGE OF SURGEONS ANNUAL MEETING

Starlight Motel  
Brookings, S. D.  
May 4, 1974

### Guest Speaker:

Claude Organ, M. D.  
Department of Surgery  
Creighton Medical School

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# The more physicians consider the hemodynamics of lowering blood pressure...

Most physicians now agree on the importance of reducing blood pressure in the hypertensive patient. But high blood pressure exists, of course, only as part of a complete clinical picture. The hemodynamic profile of well-established essential hypertension is characterized by elevated arterial blood pressure, normal cardiac output, and increased total peripheral resistance.

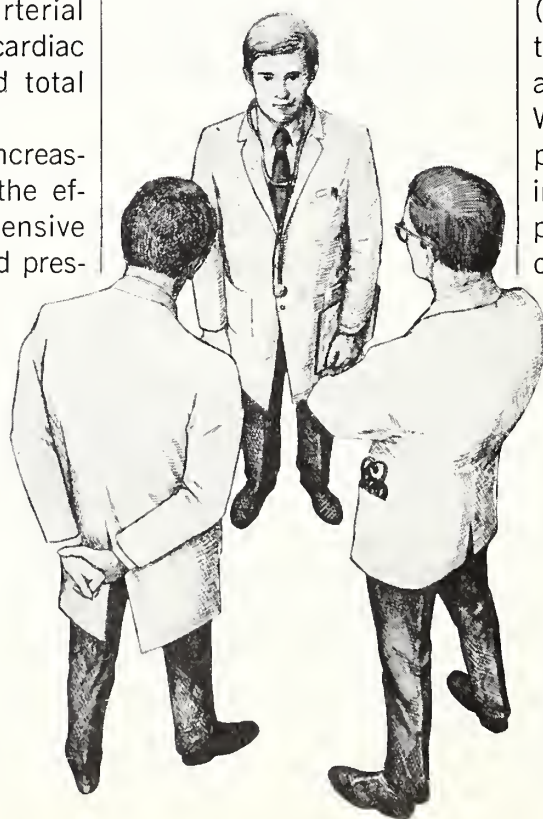
And so, physicians are increasingly concerned with the effects of an antihypertensive agent not only on blood pres-

sure itself but also on the hemodynamic pattern—in short, with the total effect of the drug. *Does it indeed help lower blood pressure effectively? Is peripheral resistance reduced? Are cardiac output and renal functions main-*

*tained? And, also, is there likely to be drug-induced postural hypotension serious enough to pose a threat to the patient's cerebrovascular status?*

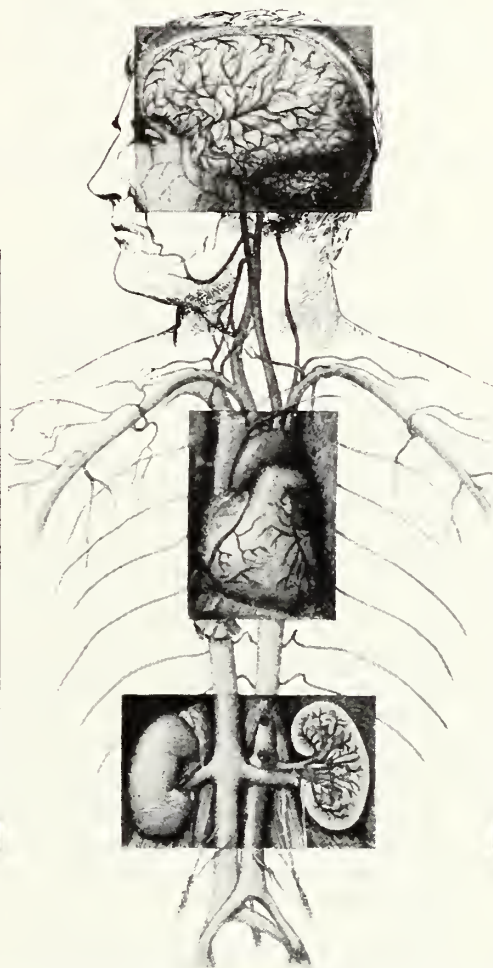
With this emphasis on overall drug performance has come a growing reliance on ALDOMET® (Methyldopa, MSD) in the treatment of sustained moderate hypertension.

With its unique hemodynamic profile, ALDOMET has drawn increasing attention and approval from physicians. First, of course, for its efficacy in





# the more physicians rely on this unique antihypertensive



lowering blood pressure. But there are other considerations as well. Cardiac output is usually maintained with no cardiac acceleration; in some patients the heart rate is actually slowed. Peripheral resistance is apparently reduced. ALDOMET does not usually compromise existing renal function; it generally does not reduce renal blood flow, glomerular filtration rate, or filtration fraction. And ALDOMET usually does not cause symptomatic postural or exercise hypotension.

Some patients on continuous methyldopa therapy may develop a positive direct Coombs test. For more details, see the brief summary of prescribing information.

Contraindicated in active hepatic disease and known sensitivity to the drug. Not recommended in pheochromocytoma or pregnancy. It should be used with caution in patients with a history of liver disease or dysfunction. Discontinue the drug if fever, abnormal liver function, jaundice, or acquired hemolytic anemia occurs.

In most cases of sustained moderate hypertension

TABLETS, 250 mg

# **ALDOMET<sup>®</sup>**

## **(METHYLDOPA | MSD)**

smoothly lowers blood pressure

For a brief summary of prescribing information, please see following page.

## In most cases of sustained moderate hypertension

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smoothly lowers blood pressure

**Contraindications:** Active hepatic disease, such as acute hepatitis and active cirrhosis; known sensitivity. Not recommended in pheochromocytoma. Unsuitable in mild or labile hypertension responsive to mild sedation or thiazide therapy. Use cautiously in patients with history of previous liver disease or dysfunction.

**Warnings:** Acquired hemolytic anemia has occurred rarely in association with therapy with methyldopa. Should clinical symptoms indicate the possibility of anemia, hemoglobin and/or hematocrit determinations should be performed. If anemia is present, appropriate laboratory studies should be done to determine if hemolysis is present. Evidence of hemolytic anemia is an indication for discontinuation of the drug. Discontinuation of methyldopa alone or the initiation of adrenocortical steroids usually results in a prompt remission of the anemia. Rarely, however, fatalities have occurred.

Some patients on continued therapy with methyldopa develop a positive direct Coombs test; incidence reported has averaged between 10% and 20%. It rarely occurs in first six months of therapy, and if not seen within twelve months, is unlikely to develop with continued administration. Positive Coombs test is dose-related; lowest incidence occurs in patients on 1 g methyldopa or less per day. Reversal of the positive Coombs test occurs within weeks to months after discontinuation of methyldopa. Prior knowledge of a positive Coombs reaction aids in evaluation of cross match for transfusions. Patients with positive Coombs tests at time of cross match may exhibit incompatible minor cross match. When this occurs, an indirect Coombs test should be performed. If negative, transfusion with blood otherwise compatible in the major cross match may be carried out. If positive, advisability of transfusion with blood compatible in major cross match should be determined by hematologist or expert in transfusion problems.

Fever has occurred within first three weeks of therapy, sometimes with eosinophilia or abnormalities in liver function tests, such as serum alkaline phosphatase, serum transaminases (SGOT, SGPT), bilirubin, cephalin cholesterol flocculation, prothrombin time, and bromsulphalein retention. Jaundice, with or without fever, may occur, with onset usually in the first two to three months of therapy. Rare cases of fatal hepatic necrosis have been reported. Liver biopsy in several patients with liver dysfunction has shown microscopic focal necrosis compatible with drug hypersensitivity. Rarely, reversible reduction in leukocyte count with primary effect on granulocytes has been seen; reversible agranulocytosis has been reported. Methyldopa may interfere with measurement of creatinine by alkaline picrate method and of uric acid by photungstate method. When used with other antihypertensive drugs, potentiation of antihypertensive action may occur.

*Usage in Pregnancy and Childbearing Age—Not*

recommended in pregnancy. In women of childbearing age, weigh potential benefits against possible fetal hazards.

**Precautions:** Perform periodic hepatic function tests and white cell and differential blood counts during first six to twelve weeks of therapy or in unexplained fever. Discontinue if fever, abnormalities in liver function tests, or jaundice appears. Since methyldopa causes fluorescence in urine samples at the same wavelengths as catecholamines, spuriously high levels of urinary catecholamines may be reported. This will interfere with the diagnosis of pheochromocytoma. Discontinue drug if involuntary choreoathetotic movements occur in patients with severe bilateral cerebrovascular disease. Anesthetics requirements may be reduced; hypotension occurring during anesthesia usually can be controlled with vasopressors. Hypertension may occur after dialysis because methyldopa is removed by this procedure.

Dosage should be limited initially to 500 mg daily when following previous antihypertensive agents other than thiazides. Do not exceed recommended daily dose of 3.0 g. Patients with impaired renal function may respond to smaller doses than patients with normal kidney function. Syncope in older patients has been related to increased sensitivity in those with advanced arteriosclerotic vascular disease; this may be avoided by lower doses. Tolerance occasionally seen either early or late, but more likely between second and third month after initiation of therapy; increased dosage or combined therapy with a thiazide frequently restores effective control.

**Adverse Reactions:** Sedation, usually transient, may be seen during initial therapy or when dosage is increased. Headache, asthenia, or weakness may be noted as early, transient symptoms. Symptoms associated with effective lowering of blood pressure, including dizziness, lightheadedness, and symptoms of cerebrovascular insufficiency, are seen occasionally. Angina pectoris may be aggravated. Symptoms of orthostatic and exercise hypotension may occur; if symptoms occur, reduce dosage. Bradycardia, nasal stuffiness, mild dryness of mouth, and gastrointestinal symptoms including distension, constipation, flatus, and diarrhea occur occasionally; these can be relieved by reducing dosage. Nausea and vomiting have been reported in only a few patients. Sore tongue or "black tongue," pancreatitis, and inflammation of salivary glands may occur.

Weight gain and edema occur infrequently; if edema progresses or signs of pulmonary congestion appear, discontinue drug. Rarely, urine exposed to air may darken due to breakdown of methyldopa or its metabolites. Other rare reactions include breast enlargement, lactation, impotence, decreased libido, skin rash, mild arthralgia, myalgia, paresthesias, parkinsonism, psychic disturbances including nightmares, reversible mild psychoses or depression, reversible thrombocytopenia, drug-related fever and abnormal liver function studies with jaundice and hepatocellular damage (see **Warnings** and **Precautions**), rise in BUN, and a single case of bilateral Bell's palsy.

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ADDENDUM

## Let's make blood pressure "required reading" for all physicians.

With recent estimates that about 23 million Americans have high blood pressure—and that half of them are not even aware of it—detection of the problem in asymptomatic persons has become an issue of national importance.

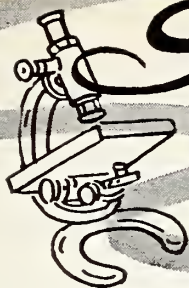
Family physicians are being urged to take blood pressure readings as a matter of office routine, regardless of the presenting complaint or the reason for the visit. And because many people do not see a family physician for relatively long periods of time, some experts are suggesting that ophthalmologists, gynecologists, dermatologists, orthopedists, psychiatrists, dentists, school nurses, family planning counselors, and other health-care personnel make blood pressure reading a routine part of every examination or consultation.

Of course, a diagnosis of hypertension cannot be made on the basis of a single reading, but routine blood pressure readings can uncover potential trouble in a certain proportion of patients. And when trouble is suggested, further evaluation can be pursued more effectively.



**Blood pressure—  
"required reading"  
for all physicians.**





# Scientific

# PAPER

## SEXUAL DYSFUNCTION VAGINAL EXERCISES AND CLITORAL ADHESIONS

by Wayne A. Dahl, ACSW, and Donna J. Dahl, A.E.\*

Dr. J. P. Greenhill, obstetrician and gynecologist says that "In the last generation medicine has made great advances in its understanding of how the body functions in love making. Yet, precious little of this has reached the public."<sup>1</sup> Some gynecologists and psychiatrists suggest that over 50 percent of all women derive little or no pleasure from the sexual act.

Masters and Johnson estimate that at least one-half of the marriages in the United States are threatened by sexual problems or will be at sometime in the future. It is, therefore, not surprising that a study, "Sexual Problems in Medical Practice," shows that about 15 percent of a family physician's practice and about 77 percent of a psychiatrist's practice deals with problems associated with sexual intercourse.

Physicians come in contact with many patients who experience sexual dysfunction. However, because of hospital calls, physical examinations and emergencies, adequate time is not and cannot always be made available to the sexual dysfunctioning patient. We recognize from talking with different physicians that patients are referred to ministers, psychiatrists, and marriage counselors. The more complex and persistent problems may be referred to centers such as, the Reproductive Biology Research Founda-

tion in St. Louis, Missouri, or to the Center for Marital and Sexual Studies in Long Beach, California.

In this paper we want to focus on two points which have come to our attention in the treatment of sexual dysfunctioning couples. The two points are vaginal exercises and clitoral adhesions. These points, according to some clients, are not always discussed by the physician during the course of the physical examination and interview.

The most common complaint of the couples we have treated is orgasmic dysfunction, primary or situational. Often times the woman or man does not know what the clitoris is or where it is located. Vaginal perception is sometimes minimal. The vaginal walls or the pubococcygeus muscle (hereafter referred to as PC) is weak and sagging. "A relation between a woman's control of her pelvic muscles, especially the pubococcygeus muscle, and her ability to achieve orgasm has. . . been reported by (the late) Dr. Arnold Kegel of Los Angeles in a series of papers. Dr. Kegel believes that the muscle facilitating female orgasm is the same one which shuts off the urinary stream. Thus a woman who wishes to achieve control can practice quite readily, first by shutting off the urinary stream a few times, and later, after she has identified the muscle in this way, by practice in contracting and relaxing it repeatedly, day after day, perhaps for a period of weeks. Research on the pubococcygeus muscle is also underway at the Center for Marital and Sexual Studies, Long Beach, California, under Dr. William E. Hartman and Mrs.

\*Sexual Therapists, Certified by the Center for Marital and Sexual Studies, Long Beach, California, in the treatment of Sexual Dysfunction. Directors of Dahl Center for Marital and Sexual Counseling, 2116 S. Minnesota, Sioux Falls.

<sup>1</sup>Ronald M. Deutsch, *The Key to Feminine Response in Marriage*. (New York: Ballantine Books, Inc., 1973), P. vii.

Marilyn Fithian."<sup>2</sup>

The late Dr. Kegel pointed out that "Some women can achieve sexual satisfaction for the first time just by being made aware of this PC muscle and its role in the sex act. Many women can contract the PC muscle on conscious command by simply learning that it exists."<sup>3</sup> However, "If the muscle is weak, as it is in most women, awareness is unlikely to be enough. Not only must the woman learn conscious control of the muscle; she must strengthen it with exercise. And, it is a rare woman," says Dr. Kegel, "who cannot benefit from increased strength of the muscle."<sup>4</sup> This then would seem to verify the comments made by Dr. Donald Hastings, of the University of Minnesota, when he says "The exercise and contraction of the voluntary muscles which form the pelvic floor and surround parts of the vagina are important for . . . enhancement of sexual pleasure."<sup>5</sup>

Many years ago, Dr. R. L. Dickenson reported that he could identify women likely to fail sexually by examining them. He wrote: "The size, power, reaction and rhythm of contraction of pelvic floor muscles give information concerning vaginal types of coital orgasm."<sup>6</sup>

Gaining control of the PC can be difficult if not sufficiently explained. There are three ways to see if the PC is contracting; use of the Kegel perimeometer, examination with the finger, and interruption of urination. We believe Hartman and Fithian, Directors of the Center for Marital and Sexual Studies in Long Beach, California, explain it best when they say the way for a woman to identify the PC muscle is to "Sit on the toilet. Spread the legs as far apart as possible. Start and stop the flow of urine. The PC muscle is the only muscle that can stop the flow of urine in this position."<sup>7</sup>

Hartman and Fithian want all the women they work with to learn to contract and to hold the PC muscle for three seconds and then relax. They are to do anywhere from 25-50 of them a day, depending on the condition of the muscle. If the muscle is fibrous but tight, it may be that she could do 30 per day. They are to work up to that number over a period of many days since exercise may make the muscle sore. The exercises are to be done routinely at consistent times during the day.

<sup>2</sup>Edward M. Brecher, *The Sex Researchers* (Boston: Little, Brown and Co., 1969), P. 99.

<sup>3</sup>Deutsch, *op.cit.*, P. 81.

<sup>4</sup>*Ibid.*, 83.

<sup>5</sup>*Ibid.*, 74.

<sup>6</sup>*Ibid.*

<sup>7</sup>Marilyn A. Fithian and William E. Hartman, Ph.D., *Treatment of Sexual Dysfunction* (Long Beach: Center for Marital and Sexual Studies, 1972), P. 88.

As time goes on, the voluntary contractions can be increased as this exercise becomes almost effortless. Often times women can increase this to two or three hundred contractions a day. This can be reached by most within a period of six to eight weeks.

After three hundred contractions have been reached, continued exercise is not usually necessary as the PC muscle in its normal state is not fully relaxed. It does remain in a state of partial contraction and maintains its strength.

The PC muscle is not only associated with bowel and bladder function, but also with positive female vaginal perception and response during penile-vaginal intercourse. In sexual orgasm the PC muscle contracts involuntarily. The contractions are strong and rhythmic. They occur from four to ten times and at intervals of about 4/5 of a second. Since many patients are already orgasmic by clitoral stimulation but desire to become orgasmic by penile-vaginal stimulation, the use and training of this and other muscles is one of the significant individual techniques known to produce the therapeutic results desired.

Both male and female are involved in sexual dysfunction. Vaginal exercise is not only for the woman's pleasure, but also for the male. If the vaginal vault is loose and gapping, males sometimes do lose their erection. If the vaginal walls are not loose, the penis makes greater contact. The woman does have the organ of accommodation and can develop a tight vaginal vault where she can receive much more friction. This is not only good for her, feeling wise, but a tight vagina will also cause more movement of the foreskin over the clitoral shaft which can be increasingly satisfying to her and pleasurable.

Some men and women we have worked with are unfamiliar with the clitoris. It appears that many, to their knowledge, have never had the clitoris checked for adhesions by their physician. LeMon Clark, M.D., was one to point out that freeing up the clitoris is frequently significant for the non-orgasmic woman. Hartman and Fithian have found that in several instances, women with clitoral adhesions have become orgasmic in the immediate subsequent coital opportunity following removal of adhesions. Through our training and research under Hartman and Fithian, we have not yet treated a woman who did not experience orgasm after removal of clitoral adhesions. This was due primarily through the combination of adhesions being removed and sexual therapy. Masters and Johnson's research shows that the clitoris is an important organ in sexual arousal. We know this does make for increased perception and stimulation.

We believe it is important for the physician to



examine the clitoris and if adhered, suggest freeing it of adhesions. This is also an excellent time for the physician to discuss sexual functioning with the patient. If the patient is orgasmic, adhesive removal may not be necessary. It could still be recommended, however, if stimulation is slow and perception is minimal. "The glans of the clitoris is packed with sensitive nerve endings, the stimulation of the glans thus contributes greatly to heightening a woman's sexual response. Dr. Masters and Mrs. Johnson note, however, that direct contact with the clitoris is not necessary in order to stimulate it. The glans is covered with a hood or prepuce; and this head is attached to the inner lips (minor labia) of the vagina, thus during sexual intercourse, the rhythmic thrusting of the penis through the inner lips produces a rhythmic friction between the clitoral hood and the glans."<sup>8</sup>

Probably one of the greatest mistakes a male makes in sexual foreplay, besides the fallacy that he should know it all, is direct stimulation of the clitoral glan if this is not desired by the female. It may be over-sensitive and irritation or even pain may result. Communication between male and female is extremely important.

It is essential that physicians provide their patients with adult sex education. So many couples are misinformed. Dr. William Masters wrote in a JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, "With any marital unit, one can anticipate that the couple has a vast amount of misinformation, misconception, and quite simply, inadequate knowledge of sexual physiology."<sup>9</sup> Many require assistance from the physician who is comfortable with sexuality. From there they can then be referred, if desired, to a qualified and reputable therapist.

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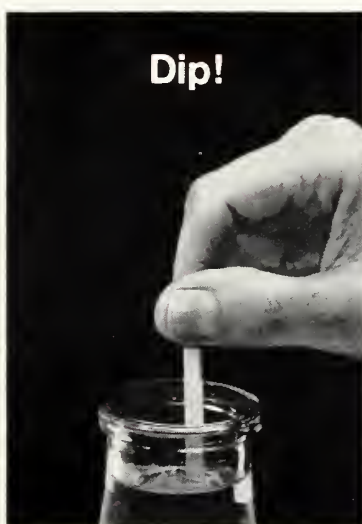
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## COR PULMONALE

**Last article in series  
by  
S. Sochocky, M.D., F.C.C.P.**

### **Treatment:**

Two factors should be taken under consideration in treatment of cor pulmonale; a basic pulmonary disease and cor pulmonale itself. As mentioned in this series, several diseases may cause cor pulmonale, however, the most common is chronic obstructive pulmonary disease with or without respiratory failure.

In treatment of chronic obstructive pulmonary disease, several factors should be considered, but of these, prophylactic and specific are the most important.

**Prophylactic**—smoking tobacco in any form is the most important factor and should be discontinued. Any exposure to smoke, smog, dust or fumes are also harmful to a patient. He should also avoid frequent colds which are usually followed by respiratory infection of bacterial or viral etiology. Some authors recommend, in patients with chronic obstructive pulmonary disease, prophylactic use of antibiotics such as ampicillin, tetracycline at the beginning of cold weather and discontinued when weather becomes warmer. Others recommend antibiotics for 3-4 weeks in patients with colds followed by respiratory infections. The usual respiratory infections are caused by *Haemophilus influenzae*, *Hemolytic streptococcus*, *pneumococcus*, *Staphylococcus aureus*.

In any patient with chronic obstructive pulmonary disease flu vaccine should be considered. Pulmonary function tests should be performed

in patient e.g. forced expiratory volume (FEV) and maximal mid-expiratory flow rate (MMFR) to assess progress of disease. Chest x-ray in early stages of chronic obstructive pulmonary disease is usually normal and only pulmonary function tests can detect early onset of emphysema.

**Specific**—Depending on age and condition of patient, severity of infection, the treatment of patient with chronic obstructive pulmonary disease is rather more difficult in some patients than in others. General condition, especially nutrition, should be maintained by use of a properly balanced diet, high protein with supplementary vitamins and minerals. The patient should be encouraged to cough and remove bronchial secretions as much as possible and help of physiotherapist may be necessary. A proper hydration of patient is necessary to keep viscosity of sputum in a form easily expectorated. The air inhaled, particularly in a hot air heated room, should be humidified. Patients with chronic obstructive pulmonary disease should be encouraged to drink plenty of water, which is still the best expectorant, if not contraindicated. Also, expectorants as potassium iodide, ammonium chloride, terpin hydrate etc. may be used. Codeine in syrup or tablet form may also be of help. Sputum should be examined for bacteria, fungus infections and sensitivity tests should be done. A course of chemotherapy with antibiotics should be started as soon as possible. In severe bacterial infections high doses of penicillin, between 10-15 million units, tetracycline 2-4 grams or cephalothin 6-10 grams daily should be given. When patient is allergic to penicillin erythromycin is the first

\* Address: Dept. of General Medicine, Veterans Administration Center, Sioux Falls, S.D.

choice, and in infection due to *Mycoplasma pneumoniae*, tetracycline and erythromycin can be used. However, when chronic obstructive pulmonary disease is complicated by infection due to gram-negative as eg. *Pseudomonas aeruginosa*, *Klebsiella-Aerobacter*, *Escherichia coli*, Garamycin and Colymycin should be given. As these drugs are nephrotoxic frequent kidney tests should be done during this treatment.

Duration of specific antibiotic therapy varies—should be judged by clinical response to treatment and should be given for at least 5-10 days after temperature subsides and sputum becomes sterile.

**Bronchodilators**—Bronchodilators are more effective in bronchial asthma, however, they are still useful in treatment of patients with chronic bronchitis and emphysema with bronchospasm. Most of the oral bronchodilators consist of aminophylline, ephedrine, phenobarbitone. The most common bronchodilator is Ephedrine dosage of 30 milligrams 2-3 times daily; however, in elderly patients this drug may cause nervousness, palpitations, tremor or retention of urine. Aminophylline seems to be the drug of choice in treatment not only of bronchial asthma but also it is helpful in patients with chronic bronchial emphysema with associated bronchospasm. The effect of aminophylline is most marked by intravenous injection, especially in patient with pulmonary hypertension as aminophylline will produce dilation of pulmonary vascular bed, increases cardiac output, has a diuretic effect and is a mild respiratory center stimulant. Another method of administration of bronchodilator drugs is by means of hand and pressured nebulizers. The pressured nebulizers also control humidity and temperature of inspired gas in addition to their function of forcing drugs as bronchodilators, mucolytic, proteolytic agents. In nebulization therapy the size of particle is important, those bigger than 30 microns remain in upper respiratory tract and those less than 2 microns pass into alveoli. The common aerosol preparation in use contains isuprel or adrenalin solutions. These drugs are effective but should be used with care and under medical supervision in elderly patients with coronary heart disease as they may cause fatal arrhythmias.

Mucolytic and proteolytic agents have also been widely used frequently in management of respiratory infection. Mucolytic agent—Mucomyst—can be used either by hand nebulization or by intermittent positive pressure breathing device (IPPB) or directly into trachea via tracheostomy. There are also various proteolytic enzymes as trypsin—chymotrypsin, Varidase which have been used to liquify sputum

but are only effective when given by nebulization. Recently pancreatic dornase—Dornavac—has been found effective and safer in liquifying sputum. However, as these drugs may be allergic and toxic they should be used under close medical supervision. Also drugs which may liquify thick secretions by lowering surface tension as eg. Alevair may also be used by nebulization. Normal saline is also effective in these patients.

**Corticosteroids**—The use of corticosteroids in chronic bronchitis, with or without emphysema, is still controversial. Their beneficial effect may be due to their anti-inflammatory action, may improve alveolar-capillary diffusion, however, side effects in prolonged use are dangerous as sodium retention, osteoporosis, hypercalcemia, hypertension, psychosis or bleeding from peptic ulcer may occur. A short course with combination of bronchodilators may be of benefit.

**Physical rehabilitation therapy**—Physical therapy should be started in bedridden patients by giving first passive and then active exercises to extremities to prevent thrombophlebitis and stiffness of joints. When the patient improves and becomes ambulatory he should be taught to use his diaphragm, abdominal muscles and restore diaphragmatic breathing. Alvan L. Barach<sup>1</sup> described the concept of raising the diaphragm by the application of an abdominal weighted pad as the simplest procedure for initiating diaphragmatic respiration. The weight put on the abdomen generally should be 10-15 pounds in the beginning and should be increased gradually over a varying period of time. Also, exercise on a treadmill or bicycle should be taken under consideration. Oxygen supported exercise may be of help by the use of a portable oxygen cylinder, which the patient wears on his shoulder while walking. It was reported by Cotes and Gilson<sup>2</sup> in England in 1956 and by Alvan L. Barach<sup>3</sup> in the United States, also in 1956. Alan K. Pierce<sup>4</sup> et al. studied patients with severe obstructive lung disease with hypoxia before, during and after a program of physical exercise. They came to the conclusion that these patients had less stress both while breathing oxygen and after a period of physical exercise.

As respiratory failure is often present in patients with chronic obstructive pulmonary disease with infection, a brief description of this condition follows.

### **Respiratory Failure:**

In physiological terms respiratory failure occurs when lungs are unable to carry out their function in maintaining partial pressure of oxygen at 100 mm



Hg and carbon dioxide at 40 mm Hg. The signs of respiratory failure are due to a lack of oxygen, carbon dioxide retention which is usually caused by underlying disease of the lungs. Respiratory failure may be acute or chronic and both forms are usually found in clinical practice. Respiratory failure is present when  $PO_2^*$  at rest is less than 50 mm Hg, and  $PCO_2^{**}$  more than 50 mm Hg. Clinical manifestations are primarily due to altered circulatory and central nervous system functions caused by these blood gas abnormalities. There is a similarity between signs of hypoxemia and carbon dioxide retention since the patient often has both gas abnormalities which show either the same, or a combination, of signs and symptoms. However, in acute carbon dioxide retention, miosis, papilledema, hypertension, sweating, asterixis may be present while in hypoxemia tachycardia, hypotension, central cyanosis and warm extremities may be present.

Acute respiratory failure may be caused by depression of the respiratory center following drugs as eg. morphine, barbiturates, in surgical operations of eg. brain, heart, abdomen or in crush injuries to chest and myasthenia gravis.

Chronic respiratory failure is seen in various chronic pulmonary diseases. The respiratory failure develops gradually following either excessive oxygen administration or respiratory chest infection. Diagnosis depends on clinical manifestations and demonstration of arterial blood gas analysis at rest. However, patients are often coming to the hospital with acute respiratory failure usually associated with respiratory infection superimposed on chronic obstructive pulmonary disease.

Management of respiratory failure in chronic obstructive pulmonary disease—The first step in treatment of respiratory failure in chronic obstructive pulmonary disease is to provide a clear airway, increase elimination of secretions and also control infections. Bronchial secretions are usually thick and viscid and extremely difficult to raise in a patient with chronic respiratory disease. Thinning secretions is an integral part of their therapy; and therefore, it is very important to maintain adequate hydration by fluid intake, in excess of 2-3 liters per day, if not contraindicated. Also adequate humidity is extremely important, and should be maintained in the patient's environment. Aerosols such as saline solution, sterile water may liquify bronchial secretions but also inhalation of aerosols

as Alevoire, mucolytic and proteolytic drugs should be used. The use of aerosol preparations containing isuprel or adrenalin solutions is very important. Endotracheal suction, and in some instances bronchoscopy, may be necessary to clear accumulated secretions.

James P. Smith<sup>5</sup> et al. conducted a 5 year study at New York Hospital, Cornell Medical Center, and came to the conclusion that conservative therapy is advisable in non-comatose patients with respiratory failure. In their study of 202 patients, 171 did not receive oxygen and were conscious on admission to the hospital. Of these, 150 patients received only conservative treatment and 145 survived. The remaining 21 patients required respiratory assistance and only 7 of these survived. From 31 patients who received oxygen before admission to the hospital 12 were in coma and were treated with a respirator; 8 of these died. Of the 19 patients who were conscious, 2 required respirators and 1 of these died; 17 patients had only conservative treatment and 14 survived. The mortality rate in this series was 15.3 percent.

Respiratory stimulants—Respiratory stimulants are helpful. Among the drugs used are nikethamide, aminophylline and vanillie diethylamide—emivan. Aminophylline is used chiefly as a bronchodilator but may be used as a stimulant to the respiratory center in dosage of about 500 milligrams, 6 hourly provided the patient is not hypotensive. Nikethamide, which is available in 25 percent solution for parental use, may also be given subcutaneously or by continuous intravenous infusion. Emivan, used 100-500 milligrams intravenously, the usual dose being 2 milligrams per kilogram of body weight, no more than 10 milligrams per minute. However, the above named drugs may produce side effects such as muscular twitching and are contraindicated in epilepsy.

Edwards and Leszczynski<sup>6</sup> in 1967, used nikethamide, prethcamide, amiphenazole, ethamivan and doxapram combined with a standard antibiotic regimen in 32 patients with chronic bronchitis having moderately to severe acute respiratory failure. In this study, doxapram appeared to be both clinically and statistically more effective and least toxic in reversing hypercapnia and hypoxemia. Nikethamide and prethcamide appeared to be least effective and amiphenazole and ethmivan were in the middle position.

K. M. Moser<sup>7</sup> et al. studied the ability of the respiratory stimulant, doxapram, to maintain pH and arterial carbon dioxide tension during oxygen administration. They came to the conclusion that

\* Abbreviation  $PO_2$  = arterial oxygen tension.

\*\* Abbreviation  $PCO_2$  = arterial carbon dioxide tension.

doxapram may be useful in the treatment of a patient in whom oxygen therapy is indicated but in whom this therapy may also cause increase of hypercapnia and acidosis.

The effect of a new carbonic anhydrase inhibitor, dichlorphenamide, has been studied in 15 patients with respiratory insufficiency by Arnold Naimark<sup>8</sup> et al; all but one patient showed clinical improvement. In most patients improvement in arterial blood gas tension was associated with increased alveolar ventilation.

Ventilatory response of patients with pulmonary emphysema to doxapram hydrochloride was described by William Fraimow<sup>9</sup> et al. In their study they found that this drug has been effective in increasing ventilation and ventilatory response to carbon dioxide. It was of particular value in preventing or retarding retention of carbon dioxide following administration of oxygen to patients with severe obstructive emphysema. There were apparently minimal side effects.

Treatment of respiratory failure without mechanical assistance was described by Hall G. Canter<sup>10</sup> et al. In conclusion, they stated a combination of respiratory stimulants doxapram hydrochloride with oxygen has proven a safe and simple way of initiating therapy in acute respiratory failure. In 18 of 22 severely ill patients this treatment was successful. This drug prevented any worsening of respiratory acidosis which frequently results from use of oxygen in this type of patient. Adverse effects of chlorpromazine and excessive isoproterenol in status asthmaticus was described by Thomas E. VanMetre<sup>11</sup> et al.

Alkalinizing agents—There are also two buffers in common use—sodium bicarbonate and trihydroxymethylaminomethane (THAM) but these drugs should be used in severe acidosis—eg. combination of respiratory and metabolic lactacidosis or in patients with severe bronchospasm. Both these drugs should be used when acute respiratory acidosis becomes life threatening, in which cases immediate correction of acidosis is indicated. According to Giles F. Filley<sup>12</sup> bicarbonate is effective in respiratory and metabolic acidosis. The infusion of bicarbonate will correct acidosis when giving 80 - 120 meq/L in a matter of a few minutes. THAM is sodium free and does not elevate  $P_{CO_2}$  but may depress respiration thus leading to hypoxemia and hypoventilation in some patients.

The use of buffers in the management of respiratory failure was also described by Gabriel G. Nahas<sup>13</sup>. From buffer agents sodium bicarbonate, sodium lactate and sodium free base Tris (hydroxy-

methyl) aminomethane (THAM) are most widely used. According to him THAM is a sodium free weak base and osmotic diuretic which has been used effectively in treatment of metabolic acidosis. After administration of THAM they noted changes in blood carbon dioxide tension, hydrogen ion-concentration, and electrolytes following six intravenous infusions of 100 - 200 millimoles of THAM. Attempts to improve alveolar ventilation were unsuccessful in 2 patients; one patient improved clinically following THAM administration but succumbed to fatal arrhythmia. Two of the patients survived. Of five patients, two were unsuccessful, one died from fatal arrhythmia, two survived.

According to David E. Dines<sup>14</sup> et al. the value of complete knowledge of acid-base derangement in pulmonary insufficiency is essential. They used the Astrup technique of the acid-base abnormalities in 4 cases of pulmonary disease and in 20 cases of cor pulmonale with severe respiratory acidosis. The acid-base status of blood can be used as a clue for need of tracheostomy and artificial ventilation.

Sedatives—Sedatives as eg. morphia, codeine, barbiturates which produce depression of the respiratory center are usually contraindicated as a patient has carbon dioxide narcosis and no sedation is needed. However, in conscious patients who are restless atarax or valium in small doses may be of help.

The use of sedatives, relaxants and respiratory stimulants in respiratory failure was described by P. Sadoul<sup>15</sup>. Respiratory stimulants used only in cases of minor increases of  $P_{CO_2}$ , never when  $P_{CO_2}$  is over 60 - 65 mm Hg.; then he used mechanical ventilation and an Engstrom machine with mask or tracheal tube.

There were several complications of respiratory failure. Pulmonary complications as infection, atelectasis, pneumothorax, pulmonary oxygen toxicity and adult respiratory distress syndrome, vocal chord injury. There were also myocardial, gastrointestinal, psychiatric, metabolic and electrolyte complications as well.

Antibiotics—Antibiotics should be given if there is acute respiratory infection according to the results of laboratory examination of the sputum and sensitivity tests.

Oxygen—Most authors agree that giving oxygen in a patient with acute respiratory failure is essential—should be given continuously in low concentration. The rational use of oxygen in respiratory insufficiency was described by Reuben M. Cherniack<sup>16</sup> et al. and according to them the amount of oxygen necessary to raise arterial oxygen pressure to normal



levels was variable in patients, but the flow rate of 3 liters per minute resulted in normal arterial oxygenation even in patients with moderately severe hypoxemia. When oxygen was given through a nasal cannula and the flow rate was less than 5 liters per minute, there was no rise in arterial carbon dioxide pressure in 17 patients with alveolar hypoventilation and hypercapnia.

The oxygen therapy must be carefully controlled if there is initial hypercapnia, as the  $P_{CO_2}$  may rise fairly acutely, particularly if there is severe hypoxemia. The lower the initial  $P_{O_2}$  the more likely is a steep rise in  $P_{CO_2}$ , but even so, individual hypercapnic patients respond differently to oxygen therapy. Patients who have hypoxemia with low or normal  $P_{CO_2}$  levels may be allowed unrestricted oxygen, as there is no problem with a rising  $P_{CO_2}$ . The important rule from the clinical point of view is high oxygen concentration—must not be given to patients with hypoxia and hypercapnia. It is also important that flow rate of oxygen should be continuous as hypoxia may develop if oxygen is given intermittently.

According to E. J. M. Campbell<sup>17</sup> clinical evidence suggests that hypoxic hypoxia of respiratory failure in patients with chronic lung disease should be managed by using inspired oxygen concentration in the range of 24 - 33 percent.

Depending on the patient's general and, especially, mental condition, arterial blood gases, oxygen should be given accordingly by using nasal catheter or cannula.

**Tracheostomy**—In some patients with chronic obstructive pulmonary disease who develop acute respiratory infection followed by respiratory failure tracheostomy may be of use. According to Charles K. Friedberg<sup>18</sup>, in an ill patient who has arterial pH below 7.30 and carbon dioxide tension above 65 mm. Hg. immediate tracheostomy should be performed. Tracheostomy should also be performed in unconscious patients with progressive clinical deterioration and rising carbon dioxide tension.

In some patients oxygen may be given by various appliances as intermittent positive pressure breathing devices (IPPB), respirators. Intermittent positive pressure breathing devices with bronchodilators have widespread application and should be given 3 - 4 times daily for 15 - 20 minutes. The indications for the use of a respiratory support system in acute respiratory failure in a comatose patient with carbon dioxide narcosis, in a patient with  $P_{O_2}$  under 40 mm Hg. who is either too weak, or who fails to cooperate with the usual routine treatment; also in a patient with acute respiratory failure in whom  $P_{O_2}$

cannot be raised over 40 mm Hg. while breathing 100 percent oxygen.

The modern respirators can be divided into pressure limited and volume limited respirators. Pressure limited respirators are usually adequate in patients with respiratory failure whose lungs are only mildly damaged. However, in patients with advanced stages of respiratory failure, stupor or coma a volume limited respirator should be used.

According to Nathan S. Seriff<sup>19</sup> et al. in a series of 157 patients with acute respiratory failure due to various causes, the mortality rate was 20 percent. In the same series among 157 patients, 72 had chronic obstructive pulmonary disease and respiratory failure; 16 died.

In a series of 145 patients of Kaye H. Kilburn<sup>20</sup> et al. mortality rate after an episode of acute respiratory failure due to chronic obstructive pulmonary disease was about 30 percent; only 16 percent survived for 5 years. The severity of hypoxemia during acute respiratory failure was an important factor; only one of eight patients with  $P_{O_2}$  below 29 mm Hg. survived. The severe acidosis—pH less than 7.20—has poor prognosis, only 4 of 19 patients survived. The patient with severe hypercapnia— $P_{CO_2}$  above 80 mm Hg—had significantly greater mortality than others.

#### **Treatment of Cor Pulmonale itself:**

As mentioned above appropriate treatment for basic lung disease and respiratory failure will lower pulmonary hypertension and right ventricular hypertrophy, but these changes are usually irreversible. In treatment of congestive cardiac failure in cor pulmonale, bed rest, salt free diet and diuretics should be given. However, the use of a digitalis preparation in the treatment of cor pulmonale is still controversial but in a patient with heart failure digitalis should be given in small dosages. However, as a result of diuretics, various electrolyte imbalance as eg. hyponatremia, hypokalemia, hypokalemic alkalosis may develop which will favor development of digitalis toxicity especially in a patient with hypoxemia.

**Prognosis**—As regards prognosis, studies of cor pulmonale from 1950 suggest that life expectancy after the first appearance of peripheral edema in patients with chronic obstructive pulmonary disease is less than 4 years. According to Lawrence V. Perlman<sup>21</sup> et al. the 5 year mortality rate in patients with severe disease, FEV<sub>1</sub> less than 50 percent, is still about 60 percent. However, if one can tide a patient over, onset of acute respiratory failure with infection and heart failure survival rate in our experience

may be prolonged up to 5 - 8 years.

### Summary:

1. The main cause of cor pulmonale was described.
2. Clinical features of the main cause of cor pulmonale—chronic obstructive pulmonary disease—with its main complications as eg. infection and respiratory failure and treatment were described.

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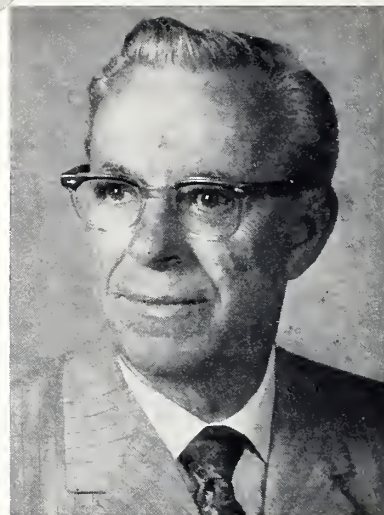
is a non-profit corporation established to assist the School of Medicine at the University of South Dakota in many ways. Student loans have been the main activity for many years. However, an Alumni Office is being established by the Endowment Association to maintain communication between graduates of the School and their friends and associates.

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# P R E S I D E N T ' S P A G E



During the past year our Association has focused attention on three areas of major concern: the degree-granting medical school, continuing medical education, and PSRO.

The degree-granting medical school has now been approved and funded by the state legislature and the emphasis must shift to developing the programs for the 3rd and 4th clinical years and residency programs to provide the complete training of our South Dakota students.

Continuing education programs are evolving into excellent formats by the major private hospitals, and now the State program can be expected to further strengthen and expand present programs to meet the needs of all our physicians.

PSRO continues to be in limbo. Our Association has established a foundation which is developing the framework and mechanism to function as a State organization when desired and required by PSRO implementation.

I wish to call your attention to another major concern that has become increasingly important during the past several months. A truly critical situation faces us now. The Federal and State government, responding to political and consumer expectations, is increasingly involved in the health care delivery system. We are at the crossroads for the professional groups, consumer and governmental agencies. The result of this possible major confrontation and/or cooperative decision regarding which course to follow will have a significant long-term effect on the medical profession, our patients, and the health care delivery system.

Everyone's patience and wisdom will be tested to provide the judgment on the best course and road to follow. We must be prepared to make the hard decisions required to protect quality medical care, cost control, and professional peer review and physician-patient privacy.

Political awareness is increasingly essential, both nationally and statewide. Year-around contact and information exchange with all our elected officials and administrative and planning personnel is mandatory. AMPAC and the SoDaPAC offer excellent vehicles for our participation in the National as well as the State and local political system. The following quote is from the recent Washington, D.C. AMPAC meeting, "Politics is not something to avoid or abolish or destroy. It is a condition, like the atmosphere we breathe. It is something to live to influence if we wish, and to control if we can. We must master its ways or we shall be mastered by those who do."

Sincerely,  
T. H. Sattler, M.D.  
President, South Dakota  
State Medical Association





## PHYSICIANS' PARTICIPATION IN THE DEVELOPMENT OF THE MEDICAL SCHOOL

by  
J. B. Gregg, M.D.\*

In late 1973 a task force subsequently called the **THIS IS IT!!!!!! COMMITTEE** of the SDSMA was appointed to acquaint the physicians of South Dakota with the activities of the Citizens' Committee for Medical Advancement in South Dakota. It was the job of the Citizens' Committee to promote the degree granting medical school in places and under circumstances where it was impossible for the SDSMA to function. To do this it was necessary to have available adequate funding. The **THIS IS IT!!!!!! COMMITTEE** vigorously solicited the vocal and financial support of each physician and every district medical society.

The results of this campaign were most rewarding; the majority of the physicians responded most generously with their political support and monies, such that the Citizens' Committee was able to function very successfully. It is recognized that some physicians were unable to support the effort with clear conscience and some were not able to give monitarily to the effort.

Special thanks from the SDSMA, the **THIS IS IT!!!!!! COMMITTEE** and the Citizens' Committee are extended to the physicians and to the District Medical Societies listed below for their most generous support of this effort to its successful conclusion. As the Medical School develops in the future, each can take pride in having played an important role in this great venture.

\* Chairman, This Is It!!! Committee.

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## News Notes • Changes • Births • News

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The Webster Chamber of Commerce at its annual banquet presented a plaque of appreciation to **Joseph Lovering, M. D.** for his 27 years of service to the community.

\* \* \* \*

**Jay Hubner, M. D.**, Yankton, has been named Medical Director of the Mount Marty College respiratory therapy program. The Division of Medical Education of the American Medical Association recently notified the college that accreditation of the respiratory therapy program will be continued.

\* \* \* \*

Pierre District officers for 1974 are **Robert Hayes, M. D.**, president; **C. L. Swanson, M. D.**, vice president and **J. T. Cowan, M. D.**, secretary-treasurer.

**Harold L. Crane, M. D.**, formerly of Hot Springs and Lead, died January 13 at Winsted, Connecticut. He was an honorary member of the South Dakota State Medical Association and a member of the American Medical Association. He was a retired Associate Medical Director of the Department of State and Foreign Service, Washington, D. C. Dr. Crane is survived by his widow, a brother and a sister.

**C. Rodney Stoltz, M. D.**, was elected president of the Watertown District Medical Society for this year. Other officers elected are **Dean Hughes, M. D.**, Clear Lake, vice president; and **John Stransky, M. D.**, secretary-treasurer.

\* \* \* \*

The Minnesota Chapter of the American Academy of Family Physicians sponsored a Caribbean Cruise in February. Among the South Dakotans on the cruise were **Dr. and Mrs. T. J. Billion**, Sioux Falls; **Dr. and Mrs. V. V. Volin**, Sioux Falls; **Dr. and Mrs. Layne Carson**, Lead; and **Dr. and Mrs. A. P. Reding**, Marion.

The following South Dakota physicians have been named diplomats of the American Board of Family Practice: **John Rittmann, M. D.**, Watertown; **Richard Friess, M. D.** and **Guy Tam, M. D.**, Sioux Falls; **C. L. Mark, M. D.**, Viborg; **James Ryan, M. D.**, Mobridge; and **C. A. Johnson, M. D.**, Lemmon.

\* \* \* \*

The 1974 officers for the Mitchell District Medical Society are **John Judge, M. D.**, president; **Richard Hockett, M. D.**, vice president; and **R. G. Gere, M. D.**, secretary-treasurer.

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**F. J. Tobin, M. D.**, Mitchell, 80, died December 25, 1973. Dr. Tobin graduated from Creighton Medical School in 1920, interned at St. Joseph Hospital in Omaha and then established his practice in Mitchell. He was a member of the District Medical Society, the South Dakota State Medical Association and the American Medical Association and was granted honorary membership in 1972. Dr. Tobin was a member of the Fifty Year Club which consists of physicians who have engaged in the active practice of medicine in South Dakota for a period of fifty years.

# Letters to the Editor

"I am currently editing a book on the personal testimonies of Christian physicians and how they view the current medical-ethical issues of today, i.e., abortion, euthanasia, organ transplants, when is a person officially dead, sterilization, psycho-surgery, semen donors, ovum donors, host mothers, reversed aging, artificial organs, genetic counseling, etc. I would be interested in hearing from any Christian physician who would be interested in contributing to such a book or who would be able to suggest a Christian physician to write for this book. Please contact me at the following address:

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## 36-YEAR-OLD FEMALE WITH ABDOMINAL PAIN AND VAGINAL BLEEDING

Russell T. Orr, M.D.\*  
*Obstetrician-Gynecologist—Discusser*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist—Editor*

### CASE NO. 73-2964

1. 1957 term pregnancy
2. 1958 term pregnancy—breech delivery, prolapsed cord
3. 1962 term pregnancy
4. 1964 term pregnancy

9-29-71 to 10-6-71. Patient entered for left lower quadrant pain and heavy vaginal bleeding for one week. Pelvic examination revealed a posterior enlarged uterus and a large right adnexal mass which was tender on palpation. She complained of right lower quadrant pain. On operation the patient had acute right suppurative salpingitis and a benign ovarian cyst. Hemoglobin on this admission was 11.2 gms/dl and hematocrit 32 vols/dl. Total leukocyte count was 9,700/mm<sup>3</sup> with 76% segmented neutrophils, 24% lymphocytes.

Next admission 1-23-73 to 1-27-73. Patient entered for increasingly heavy periods. There was a questionably abnormal mass in the left lower quadrant just to the median of the left iliac fossa which was interpreted as fecal material. The uterus was felt to be retroverted and enlarged on pelvic examination. There were no adnexal masses. Admission hemoglobin 7.2 gms/dl, red count 3.87 million/mm<sup>3</sup>, hematocrit 24 vols/dl, mean corpuscular hemoglobin 19 micromicrograms, mean corpuscular volume 62 cubic micra, mean corpuscular hemoglobin concentration 30%. Total leukocyte count 5,300/mm<sup>3</sup> with 34% segmented neutrophils, 1% neutrophilic bands, 6% eosinophils, 58% mature lymphocytes and 1% monocytes. A platelet count was 185,000/mm<sup>3</sup> and the platelets were normal in number and morphology on smear. The red cells were hypochromic and microcytic with slight anisocytosis. Reticulocyte count was 0.9%, erythrocyte sedimentation rate 15 mm/hr. A serum iron was 5 micrograms %, iron binding capacity 407 micrograms/dl, percent saturation 1%. Papanicolaou smear Class I, serology nonreactive. A dilatation and curettage was performed which showed secretory endometrium. The patient was discharged on iron therapy.

Present admission 6-20-73—The chief complaint of this 36-year-old para 4004 was lower abdominal pain on the last admission. The patient had been seen one week previously by another physician and it was noted that the uterus was enlarged and tender. She was checked one week later and the uterus had enlarged slightly to the size of a 3-month pregnancy and was stony hard and exquisitely tender. The patient's last menstrual period was 10 days previous. It was not remarkable. The patient had had four children. The patient's periods had been every 28-30 days with times of much heavier periods as indicated above, but the flow was less at this time. There was no other significant history of hospitalizations or operations.

**PHYSICAL EXAMINATION:** Pulse 80 per minute and regular, respirations 22 per minute and regular, blood pressure 110 systolic and 70 diastolic, height 5'6", weight 125 lbs. Examination of the head and neck was unremarkable. The chest was clear to auscultation and percussion. The heart was normal size with no murmurs. There was a normal sinus rhythm. On abdominal examination the uterus could be felt 3 finger-breadths over the symphysis. The cervix was clean with a small amount of blood on the vaginal walls. The uterus was probed anteriorly to a depth of 9 cm. with no bleeding. The uterus was the size of a 3 month pregnancy, very hard, and exquisitely tender.

**LABORATORY DATA:** Urinalysis, light, straw-colored and clear, specific gravity 1.022, pH 6.0, negative for protein, glucose, ketone bodies, bile and hemoglobin. The sediment was negative. The hemoglobin was 7.2 gms/dl, red count 3.96 million/mm<sup>3</sup>, hematocrit 30 vols/dl, mean corpuscular hemoglobin 24 micromicrograms, mean corpuscular volume 75 cubic micra, mean corpuscular hemoglobin concentration 32%, total leukocyte count 8,900/mm<sup>3</sup> with 72% segmented neutrophils, 1% eosinophils, 26% lymphocytes, 1% monocytes. There was moderate to marked anisocytosis, moderate hypochromia and microcytosis of the red cells on smear. The platelets were normal in number and morphology. An operation was performed.

DR. ORR: This patient had seven years of sterility since her last pregnancy mentioned in the protocol until her admission in 1971. Whether the period of sterility was purposeful with the use of contraceptive agents or whether it was unintentional is not mentioned. In 1971 she entered with lower quadrant pain and heavy vaginal bleeding. She had an acute

\* Obstetrician and gynecologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

\*\* Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, The University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.

right suppurative salpingitis and a benign right ovarian cyst. It is not mentioned in the protocol, but the surgery was a removal of the right tube and ovary. (Dr. Barlow did let me look at the charts preceeding the diagnostic admission.) The left tube and ovary at this initial operation appeared normal and the uterus was not considered abnormal but was somewhat enlarged. The hemoglobin of 11.2 gms/dl and the white count of 9,700/mm<sup>3</sup> with 76% segmented neutrophils are not what one usually sees in acute pelvic inflammatory disease. I do not know whether she had been treated with any antibiotics previous to these results. From this point on, the patient has to be considered as having a history of pelvic inflammatory disease. Tuberculous salpingitis must also be considered.

Her next admission was approximately 1½ years later for increasing heavy periods, and there was an abnormal mass in the left lower quadrant just medial to the left iliac fossa. This was interpreted as fecal material. The uterus was described as retroverted and enlarged. My comment at this point is that these retroverted uteri appear enlarged to examination because they can be felt and manipulated more easily by the examiner. Further enlargement, however, is described later. There were no other initial masses. The hemoglobin at this admission had dropped to 7.2 gms/dl. The patient did have a low serum iron, high iron binding capacity (IBC), and low percent saturation. Dilatation and curettage showed secretory endometrium. There is no mention of an x-ray of the pelvis and no mention of a pelvic examination in which a large uterus was felt. One must consider adenomyosis, if the uterus was enlarged, since adenomyosis is accompanied in 25% of females by menorrhagia.

I do not remember exactly how long ago this was, but there came into being a low serum iron syndrome seen in patients in their early thirties who were multiparous and had excessive periods. These patients were treated by dilatation and curettage. The incidence of serious pathology in this age bracket is slight. These patients were found to have low serum iron and markedly decreased total body iron stores. If they were treated with iron therapy, the menstrual periods became normal.

I should also mention in the operative note of this admission that the uterus was found to be 4¾ inches deep on probing. That is a large uterus.

This last admission was about six months later. The patient re-entered the hospital after being discharged on iron therapy with lower abdominal pain. She had been noted to have an enlarged, tender uterus prior to admission. She was examined again a

week later and the uterus was enlarged to the size of a 3 month pregnancy and was stony hard and exquisitely tender. It does not state whether this patient was on any medication such as birth control pills. On physical examination, the uterus could be felt three finger-breadths over the symphysis (Whether it turns out to be the uterus or not, we will see.) The uterus was probed to a depth of 9 cms. with no bleeding. I am sure that pregnancy tests were done to rule out the possibility of a hydatidiform mole or pregnancy. Were the pregnancy tests done?

DR. BARLOW: I believe they were done on an outpatient basis and were negative, but I am not sure.

DR. ORR: The hemoglobin on this admission rose to 9.7 gms/dl over the previous 7.2 gms/dl. I think that we can say that this patient's blood picture represents an iron deficiency type of anemia from chronic blood loss from the uterus. I think that the blood loss could have been due to adenomyosis or endometriosis interna or could have been coming from a large fibroid uterus. I have confused these two entities frequently prior to surgery considering some patients to have fibroids before surgery and others to have adenomyosis, the reverse being the case. I do not know of any way of distinguishing the two in a symmetrically enlarged uterus. If there is a nodule, I think it is easier to decide in favor of the fibroids.

This patient has another difficult physical sign—that is a stony hard uterus. I have felt stony, hard tumors in the pelvis on the basis of malignancy, chronic infection, ectopic pregnancy, and fibroids. I have heard one observer describe endometriosis as commonly stony hard. This has not been particularly true in my experience.

The patient's mass was also exquisitely tender and this makes one think of inflammation or irritation of the pelvic peritoneum. Pelvic inflammatory disease or pelvic cellulitis is exquisitely tender. However, these patients usually have a definite fever and a marked white blood cell increase. This may not always be the case. This patient, on an earlier admission, had had pus in a tube but did not have a high white count or fever.

The possibility of blood irritating the peritoneum from endometriosis or an ectopic pregnancy must be considered. I have had the experience of a large hard tender pelvic mass resulting from a tubal abortion with the formation of a hematocele. This occurred a month to a month-and-a-half after the patient had had a tubal abortion of an ectopic pregnancy. The chances of the patient having involve-



ment of the other tube with pelvic inflammatory disease is as high as 90%. A pyosalpinx can then form a hydrosalpinx. This could have become an enlarged palpable tumor which could even have undergone torsion.

This case does not seem to me to be one of pelvic abscess. There is not enough evidence of sepsis either clinically or by the laboratory data. Torsion of an ovarian cyst or hematocele must be considered but should present with a more acute situation than what this patient seems to have.

About seven years ago Dr. Leon Israel gave seven reasons why a patient has pain in the pelvis.

1. The first is ischemic anoxia of functioning muscle cells. This is similar to the pain in coronary insufficiency of intermittent claudication.
2. Intense muscular contractions. This is occasionally seen in immature myometrium of adolescent girls having dysmenorrhea.
3. Alteration of blood vessels by active or passive contraction or torsion of these blood vessels.
4. Inflammation which is a local response manifested by vascular congestion. Apparently this vascular congestion impinges on nerves.
5. Capsular distension.—This is rigid distension of a limited area by fluid, blood, or pus. This is typical of endometriosis.
6. Sudden rupture of a hollow viscus such as an ovarian cyst. This may be traumatic.
7. Contamination of the peritoneal cavity such as by rupture of an ectopic pregnancy, perforation of an abscess, or rupture of an ovarian cyst.

If we considered that the source of this pelvic mass is definitely uterus, and not ovarian, then there is a little trick I learned from Scotland. For tumors other than ovarian origin remember the letter "F"—remember fat, flatus, fetus, fluid, fibroid, feces, or a full bladder.

I am going to have to consider that the patient had a possible ectopic pregnancy, perhaps even an abdominal pregnancy. I have never seen this situation. A history of pelvic inflammatory disease would favor ectopic pregnancy. Adenomyosis is a possibility. I might mention that a negative pregnancy test certainly would not rule out an ectopic pregnancy.

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\*\*\*\* Obstetrician and Gynecologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

These pregnancy tests are negative in half or more of the cases. I do not feel that a test such as a cul-de-sac tap or a laparoscopy would be indicated here. This case presents an obvious surgical situation.

## DR. RUSSELL T. ORR'S DIAGNOSIS

### *Ectopic Pregnancy*

\*DR. R. A. JAQUA: Does the fact that this uterus was large and was probed to 9 cm. help in determining whether it was an intrauterine or extrauterine pregnancy?

DR. ORR: Yes, this uterus is quite large and could hide many things. I have seen a patient with a reduplication of the uterus who had a sarcoma arising in the uterine wall. Fibroids can seem to elongate the uterine cavity and are often associated with bleeding but are not considered the cause of bleeding.

\*\*DR. W. A. ARNESON: What does it mean to say that the uterus was probed anteriorly?

DR. ORR: I don't think that means anything, except that the uterus was anterior. Originally she was described as having a retroverted uterus and now the uterus is anterior.

\*\*\*DR. F. S. STAHMANN: I have to question the diagnosis of pregnancy in this case.

DR. ORR: I must say I was grabbing at straws in this case. I did consider the diagnosis of endometriosis with or without pregnancy.

DR. STAHMANN: This patient had pelvic inflammatory disease in 1971. The uterine cavity was smaller at that time. The uterus is now anterior instead of posterior and she has had continued bleeding severe enough to cause iron deficiency anemia. This was a classic type of patient seen years ago with the effect of chronic pelvic inflammatory disease of postabortal or post-gonococcal nature. These patients often have pain and bleeding. The patient had a mass which could have either been adenomyosis or myoma. I wonder if the whole picture cannot be explained by the residue of chronic inflammatory disease and a myoma.

\*\*\*\*DR. B. J. WILLIAMS: I do not know what this patient had, but I think one striking thing is that the patient is alive after an operation on acute pelvic inflammatory disease. Operations on a patient with this condition can be fatal.

DR. ORR: Well, I was not trained in Chicago so I did not see a tremendous incidence of pelvic inflammatory disease. But, I think one can operate on pelvic inflammatory disease, if it is handled properly, without a fatal end. You can often miss the diagnosis of pelvic inflammatory disease preoperatively. In

fact, this patient had acute pelvic inflammatory disease and was operated upon, but pelvic inflammatory disease was not suspected as she had no fever or increased white count. Often there is no clue to the diagnosis of pelvic inflammatory disease before operation. I would agree that this patient could have had a recurrence of pelvic inflammatory disease or a degenerating fibroid. However, I have no high white count or fever to help me rule out pelvic inflammatory disease.

DR. BARLOW: The first slide shows the opened uterus which is distended by a large degenerating leiomyoma (Fig. I). The microscopic of this simply shows necrosis which is not very exciting. The lesion is benign. The patient did have acute endosalpingitis in the opposite tube.



**Figure I**

Opened uterus with huge degenerated or infarcted leiomyoma distending uterine cavity.

#### **FINAL PATHOLOGIC DIAGNOSIS**

1. Large Degenerated Leiomyoma of Uterus, Submucous
2. Acute Salpingitis, left

Leiomyomas are smooth muscle tumors and are very common. They are present in 20% of women over the age of 50 and are more common in blacks. They may be single or multiple and may be from microscopic size to 20 or 30 cms. in diameter. Dr. Stahmann had a case which was massive not too long ago.

DR. STAHMANN: Yes, it was a third of the patient's weight and she weighed about 110 lbs. approximately.

DR. BARLOW: Leiomyomas are usually seen in the fundus of the uterus but can be seen in the cervix where they may cause obstruction of labor. Leiomyomas are rarely seen in the tube. The three most

common locations of uterine leiomyomas are submucous where they are often associated with bleeding; subserous or pedunculated lesions attached to the surface of the uterus, and intramural. The submucous lesions can have ulcerations and stretching of the endometrium over them causing bleeding. Often, however, abnormal vaginal bleeding cannot be attributed to the myomas. Occasionally, a subserous leiomyoma will lose its blood supply to the uterus and become attached to the omentum becoming a wandering or parasitic fibroid. No one knows the etiology of leiomyomas, but they are estrogen stimulated and do stop growing after the menopause. Oral contraceptive agents will cause them to enlarge and become cellular. The latter is a problem for pathologists as they may be hard to distinguish from leiomyosarcoma.

Leiomyomas are firm, well demarcated tumors composed of interlacing bundles of smooth muscle fibers. The various types of degeneration include hyalinization and cystic change. Calcification or even ossification is not infrequent in these tumors. Infection and ulceration of submucous fibroids has been described. Necrosis and hemorrhage such as in this case is not uncommon. Fatty changes are quite uncommon. It is my own feeling that sarcomatous degeneration of fibroids is a very rare phenomenon and occurs in less than one in 1,000 of such tumors. I feel that most leiomyosarcomas of the uterus start denovo.

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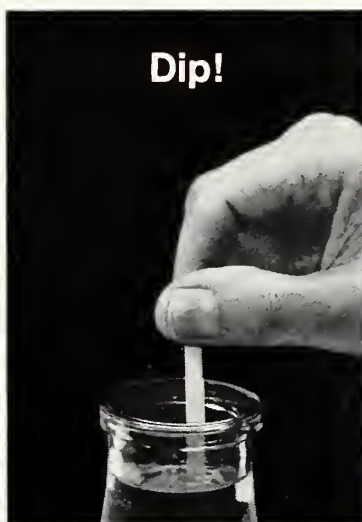
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For further information on this subject, the following references are provided:

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## BY-PRODUCTS OF ORAL CONTRACEPTION

by  
Richard R. Thornton, M.D.\*

### I. History and Background

Oral contraception is now fifteen years old. This writer's interest is of the same vintage. At the time of the clinical trials of oral contraception in Puerto Rico, Dr. John Rock<sup>9</sup> involved me in an assessment of the possible effects of these agents on the human ovary. Since that time, there have been literally hundreds of published studies of direct and indirect effects of these agents, called progestins. From the scientific papers, thousands of lay articles have been generated. In spite of the anxiety provoked by this public scrutiny, even Senate Hearings, it seems clear that American women and their physicians are willing to assume the risks of effective contraception as against uncontrolled reproduction. In 1969, according to the second report of the Advisory Committee on Obstetrics and Gynecology, 8.5 million women were using oral contraceptives. This represents a doubling of use since 1965. It must be considered an established fact that "pills" have proven to be highly acceptable to many couples who have found other methods inconvenient or impractical. Therefore, your attention is directed not to the question of whether or not this method of conception control should be used, but to a consideration of how we can better control the by-products of such usage.

A by-product is defined as an accessory or incidental material resulting from the manufacture of a

desired product. It may also be a secondary effect, either desirable or undesirable. By-products of oral contraception may be viewed as differences in drug actions conditioned by patient selection and, to a lesser degree, contraceptive pill selection. An adverse by-product may occur from individual susceptibility, which, when clearly defined, we classify as a contraindication. Desirable by-products may derive from individual disorders which, when identified, clearly constitute a secondary indication for use.

Pharmaceutical houses formerly based their marketing appeal for oral contraceptives on considerations such as dosage, packaging appeal, safety, and effectiveness of their "pill." More recently, there has been emphasis on correlating "types" of patients with various formulations of contraceptive hormones.

### II. Formulations for oral contraceptives

Oral contraceptives contain both an estrogen and a progestin. The estrogen may be either mestranol or ethinyl estradiol (Fig. 1). There is a slight differ-

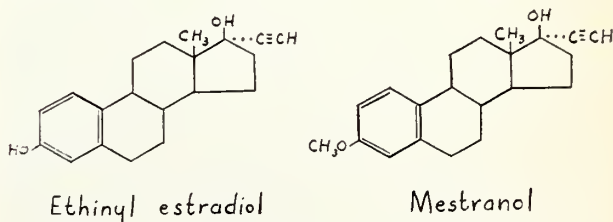


Figure 1

Note methoxy group in the three position. This is the methyl ether of ethinyl estradiol.

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ence in the estrogenic potency of mestranol and ethinyl estradiol. Mestranol is approximately two-thirds as potent as ethinyl estradiol. Fifty mcg. of ethinyl estradiol is the equivalent of 80 mcg. of mestranol. There is no evidence that there are any significant differences in the estrogenic biologic effects. By virtue of greater variation in structure, progestins differ significantly in their progestational, androgenic, estrogenic, and antiestrogenic properties. It seems reasonable to view the variations in estrogen between various contraceptives as simply dose-related. In contrast, the progestin component may not only be dose-related but may also be related to chemical configuration. However, under conditions of routine clinical usage, variations in biologic properties are generally not apparent, except in the occasional patient. These variations most frequently appear as unsatisfactory bleeding patterns. An increase in the estrogen may correct early, break-through bleeding. An increase in the progestin component may correct late, break-through bleeding. An alteration in the progestin component may also correct hypomenorrhea or amenorrhea which occurs so commonly after six to twelve months of usage of low-dose formulations. This symptom is consistently relieved by the use of sequential preparations.

On the other hand, some patients would seem to be able to take almost any oral contraceptive pill satisfactorily. I once had a patient who worked in another physician's office. It was her custom to use whatever samples of "pills" the detail men happened to have left. She did this over a period of at least five years, and as far as she was concerned, one "pill" was the same as another.

While I do not intend to minimize the pharmacologic differences between various formulations of "pills," it does appear that patient variation is more significant in explaining differences in drug response than is drug formulation. An appreciation of the general facets of the pharmacology and physiology of these agents should allow one to make a more rational choice, especially in those instances where the initial selection is found to be unsatisfactory. The use of oral contraceptives will be simplified by choosing an initial balanced-type formulation with a low dose of both estrogen and progestin. This is found to be suitable for most patients. It is the safest approach, since it reduces overall side effects by employing a dose of hormone which is only slightly above the threshold for inhibiting ovulation. It is consonant with an old therapeutic axiom; namely, learn to use one drug and use it well. The most common difficulty with this approach is amenorrhea. Amenorrhea means that either more estrogen or less

progestin is needed.

### III. Adverse by-products

I would now like to discuss selected circumstances which have bearing upon the usage or selection of an oral contraceptive. This is not intended to be exhaustive, but an attempt has been made to include those "by-products" which are common and significant.

#### ECTROPION (EROSION AND CERVICITIS)

If this condition of the cervix is ignored and the patient is placed on an oral contraceptive, she may return shortly with vaginitis, cystitis, or urethritis. Oral contraceptives thus aggravate an existing condition. Prophylactic measures might include cryotherapy and hot cautery; or alternatively, temporizing measures such as douches. Congenital ectropion is a common finding in the nulliparous patient who frequently wants to use oral contraceptives for a number of years. Cryotherapy has proven to be effective and uncomplicated under these circumstances.

#### GLUCOSE TOLERANCE

Much of the investigation of alterations in carbohydrate tolerance has been inconsistent. The explanation for such inconsistency lies in variations of the chemical structure of the "pills" employed, the amounts administered, and, most importantly, individual susceptibility. In a series of 4,815 patients studied by Phillips,<sup>8</sup> the mean difference between the glucose levels at one hour when users were compared with non-users was only 11 mg. percent. Furthermore, there was no evidence of progressive alteration of carbohydrate tolerance associated with duration of usage. Impairment of carbohydrate tolerance is more pronounced in women with latent or overt diabetes. Severity of impairment is also related to the dose of estrogen administered. Pregnancy itself administers the greatest dose of estrogen. In studies by Beck,<sup>2</sup> the diabetogenic effects of pregnancy were greater than those of oral contraceptives. This is what we would all expect, but it is reassuring to have the experimental data.

There is no evidence that steroid contraceptives can induce diabetes by a process of islet-cell exhaustion in women who are not genetically predisposed to diabetes. The studies to date indicate we should assess glucose tolerance in those patients with a positive family history of diabetes, those with known latent diabetes, and those with overt diabetes before giving them "pills." It must be recognized that



for some patients it is extremely important to their general health to have reliable contraception. When compared with the adverse effects of pregnancy on overt diabetes, the change in glucose tolerance secondary to "pills" is relatively insignificant. Thus, the clinician may find himself in the paradox of readily administering "pills" to the most severe diabetics and scrupulously avoiding them in the mild diabetic managed with diet only.

### MASCULINIZATION OF THE FEMALE FETUS

To date, there have been no reported cases of masculinization of a female fetus with presently employed formulations for contraception. Norethindrone, in doses of 10-40 mg., has been shown to masculinize the female fetus.<sup>4</sup> We know that amenorrhea can occur, especially with the norethindrone group of contraceptives, and women are commonly instructed to start their pills again if they fail to menstruate. Should pregnancy occur, this is a potential trap! It has been my practice to ask patients to report to me if they fail to menstruate, because they will require an increase in estrogen content of their "pill." At the same time one can ascertain whether or not they are pregnant.

The progestin withdrawal test for pregnancy enjoyed a certain vogue when biologic animal tests were the only direct tests available. With the advent of a simple, rapid, immunologic test for pregnancy, its use can no longer be justified. Progestin withdrawal is to be distinguished from progesterone withdrawal; the latter is perfectly safe, even in the presence of early pregnancy. The effects of progestins in early human pregnancy are unknown.

Thus, there are two reasons why oral contraceptives should not be used during pregnancy:

- 1) We have a perfectly acceptable direct test for pregnancy.
- 2) There is, in theory, a risk of adversely affecting the female fetus.

### JAUNDICE AND PRURITIS

Jaundice and pruritis are relatively rare complications of both pregnancy and the use of oral contraceptives. These conditions are completely reversible upon discontinuing the oral contraceptive or concluding the pregnancy; i.e., they are self-limited and non-progressive. The most important aspect of this problem is simply to recognize that it is not due to any of the more serious causes of jaundice, but it is simply a mild form of cholestatic jaundice.

### HYPERTENSION

Hypertension following oral contraception has been reported to occur in 7 percent of patients.<sup>10</sup> There is a general tendency for the systolic and diastolic blood pressure to rise with age. The appearance of hypertension in women who have been on "pills" for a prolonged period of time does not necessarily justify the inference that the "pills" produced the hypertension. On the other hand, it has been demonstrated that there are alterations in the renin-angiotensin system in patients on "pills." Yet most patients do not manifest hypertension, probably because of other as-yet-undefined compensatory mechanisms. There have been a few well-documented cases in which hypertension disappeared when "pills" were withdrawn, and a causal relationship in these individuals is beyond reasonable doubt.<sup>10</sup>

### MONILIAL VAGINITIS

It is difficult to study a potential relationship between "pills" and monilial vaginitis. Reports in the literature have been conflicting. However, it is well recognized that pregnancy predisposes to moniliasis and a patient who gets moniliasis on pills would get it much more easily and more severely were she pregnant. If monilial infection is a recurrent problem in a patient taking progestins, the first approach should be the same as for any patient:

- 1) Eliminate possible sources of reinfection, such as in the sexual partner.
- 2) Search for a primary focus in other areas of the body, especially the hands, feet, or gastrointestinal tract.

If *Monilia* persists, it may be corrected by increasing estrogen, or occasionally it may be necessary to discontinue the "pills."

### IV. Salutory by-products

#### ACNE

Acne is a disorder of multiple causes. It is directly related to the production of androgens and characteristically appears when gonadal function begins to be established. Although most current preparations for oral contraceptives have some androgenic properties, these are insufficient to provoke acne by androgenic stimulation of sebum production. On the contrary, salutory effects of oral contraceptives predictably occur due to suppression of the gonadotropins which are causing the ovaries to secrete an excessive amount of androgen.<sup>11</sup>

Relief of severe dysmenorrhea is an important and fairly dependable by-product of oral contraception. This indication for the use of "pills" may stand alone on occasion; e.g., those patients who would otherwise require narcotics for relief of pain. In 1940, Sturgis and Albright<sup>12</sup> showed that dysmenorrhea could be prevented by injecting estrogen every three days for six doses. They also showed that if progesterone was given after ovulation had been suppressed, painful cramps occurred in spite of the estrogen treatment. This would suggest that it is the presence of progesterone which produces the dysmenorrhea. It is somewhat paradoxical that oral contraceptives are effective in relieving dysmenorrhea in 80 to 90 percent of cases,<sup>5</sup> until one recalls their chemical structure. Progestins are more nearly related to testosterone than they are to progesterone. Evidence from the work of Filler and Hall<sup>3</sup> shows decreased intra-uterine pressure in patients receiving oral contraceptives. Additional relief of symptoms may result simply from reducing the amount of flow, which is probably both of psychologic and physiologic importance.

#### SUPPRESSION OF OVARIAN FUNCTION

Patients may present with problems necessitating control of conception as well as the mechanical control of ovarian enlargement, normally occurring with each cyclic ovulation. The use of oral contraceptives may accomplish these purposes simultaneously. For example, in a premenopausal patient with a cystic enlargement of one ovary, pregnancy is certainly to be avoided until the nature of the cyst is resolved. By suppressing gonadotropic hormones, "pills" not only prevent ovulation but also promote the involution of such *functional* cysts. Data that this effect is more than just theoretical has been collected by Ory.<sup>7</sup> Ory's study indicates that women taking "pills" have significantly fewer functional cysts requiring surgical removal than those who do not take "pills."

The second circumstance in which one might want to produce a mechanical effect on the pelvic organs is that associated with chronic or subacute pelvic inflammatory disease. One of the mainstays of treatment is "pelvic rest." This refers to the interdiction of intercourse, but the concept can be extended to include placing the ovaries at rest. A satisfactory study of the effect of oral contraceptives on the pelvic pain would be exceedingly difficult. At this writing, there has been no such study. However, it is quite reasonable to anticipate more than a placebo effect.

#### CORRECTION OF DYSFUNCTIONAL BLEEDING

This is particularly applicable in anovulatory women, either in the beginning or at the end of reproductive life. If organic causes for dysfunctional bleeding have been excluded, it is perfectly appropriate to treat such a patient for several cycles to allow her symptomatic relief and an opportunity to correct her anemia. The patient should, however, be advised that she may revert to her previous pattern upon discontinuing the "pills." At menarche and at menopause, mild derangement of the pituitary-ovarian axis is common. At menarche, this defect is primary in the hypothalamus, whereas at menopause it represents ovarian failure. Patients with hypothalamic dysfunction producing oligomenorrhea may be more prone to oversuppression; i.e., prolonged amenorrhea following treatment with "pills." In such patients, a sequential preparation is preferable because it suppresses gonadotropin less completely (Fig. 2, 3, & 4).<sup>6</sup> These patients should be allowed to have an occasional spontaneous period at intervals of one or two years. They should also have a careful explanation that the effects of the "pills" are generally transient, but that they take a calculated risk in using "pills" and perhaps should consider other methods of contraception.

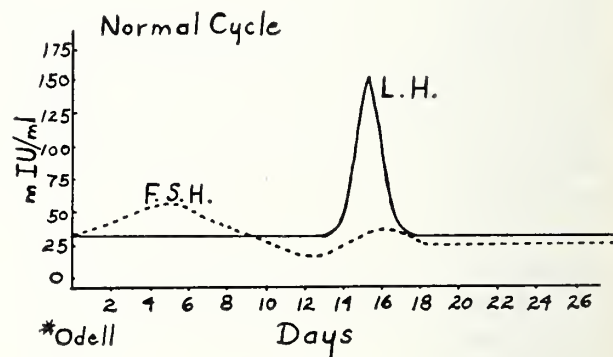


Figure 2

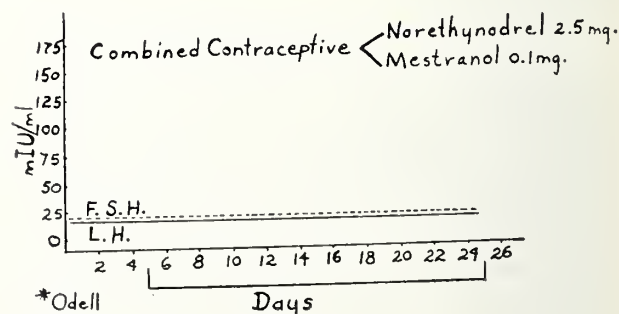


Figure 3



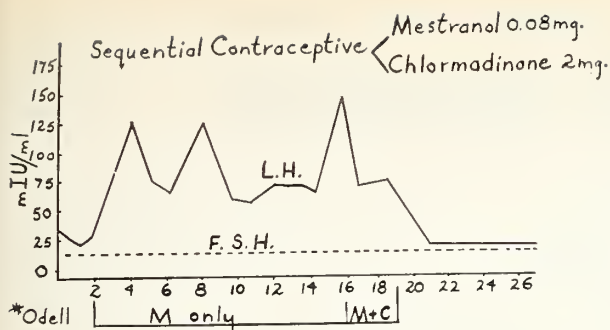


Figure 4

## COITAL ACTIVITY

Are oral contraceptives increasing coital activity among our population? This was one of the great concerns of physicians ten years ago. "Pills" were, in fact, "tickets" for coitus! In my opinion, this is not a by-product of oral contraception and should be specifically excluded as such. While it is true that coital activity has increased in the younger members of our population, certainly it would be unwarranted to dismiss the numerous other factors affecting sexual behavior. A recent study by Barnoff<sup>1</sup> shows that when a girl asks for contraceptives, she is already sexually active. The problem seems to be that not enough young people ask for contraceptives in anticipation of their need, rather than that the availability of these hormonal agents increases sexual license.

## V. Summary

Never in medical history have so many healthy women taken a pharmacologic agent for months or years in the absence of specific disease. It is the responsibility of physicians prescribing these drugs to prevent adverse side effects and to take advantage of their salutary effects at the same time as he provides conception control. Contrary to popular press and popular opinion, the adverse effects of "pills" are "not all that bad," and the salutary effects are often of dramatic and real benefit.

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Hosted By: South Dakota Academy of Family Physicians; South Dakota Chapter of the American College of Obstetrics and Gynecology

SPECIAL GUEST: James G. Price, M.D., President, American Academy of Family Physicians, Brush, Colo.

Gordon H. Deckert, M.D., Professor and Chairman, Department of Psychiatry and Behavioral Sciences, University of Oklahoma, Oklahoma City, Oklahoma—Native South Dakotan—Nationally reknowned authority on transactional analysis, sexual counselling and marriage. HE HAS A SPECIAL MESSAGE FOR WIVES.

This program is acceptable for 10 prescribed hours by the American Academy of Family Physicians.

## Friday, August 16, 1974

### Morning Session

#### Rushmore Room

Bruce Lushbough, M.D., Moderator

- 8:00- Registration (all day)  
9:00- 9:40 Gordon H. Deckert, M.D.—*Transactional Analysis and the First Three Minutes*.  
9:45-10:25 Arnold L. Schroeter, M.D.—*Practical Office Dermatology*.  
10:25-10:40 Coffee and Rolls  
10:45-11:25 William B. Stromme, M.D.—*Ectopic Pregnancy*.  
11:25-12:05 Panel Discussion (all morning speakers)  
12:15- 2:00 Lincoln Room—Luncheon for physicians and wives. Luncheon speaker—Gordon H. Deckert, M.D.—*Medical Marriage*.

### Afternoon Session

#### Rushmore Room

Wenzel J. Kovarik, M.D., Moderator

- 2:15- 2:55 William B. Stromme, M.D.—*Management of Breech Presentation*.  
3:00- 3:40 Arnold L. Schroeter, M.D.—*Problems and Pitfalls in the Office Management of V.D.*

- 3:45- 4:15 Panel Discussion (both afternoon speakers)

- 4:15- 4:30 Coffee and Coke

- 4:30 Annual Business Meeting, South Dakota Chapter, American Academy of Family Physicians—Election of Officers.

- 6:30 P.M. FRIDAY—Bus leaves for "Group Dinner" in the Black Hills. Bus transportation and cocktails provided.

## Saturday, August 17, 1974

### Morning Session

#### Rushmore Room

B. J. Williams, M.D., Moderator

- 9:00- 9:40 John T. Queenan, M.D.—*Overview of High Risk Pregnancy*.  
9:45-10:25 Gordon H. Deckert, M.D.—*The Patient With a Sexual Problem*.  
10:25-10:40 Coffee at Tables  
10:45-11:25 John T. Queenan, M.D.—*Present Status of R.H. Sensitization*.  
11:30-12:00 Panel Discussion (all morning speakers)  
12:30 Luncheon Meeting—Board of Directors, South Dakota Chapter, American Academy of Family Physicians—Washington Room.

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by  
the Department of Pathology of the Hospital and of the School of Medicine  
of the University of South Dakota*



## TWENTY-SEVEN YEAR OLD GRAVIDA II PARA I AT TERM WITH ABDOMINAL PAIN

**Milton G. Mutch, M.D., FCAOG\***  
*Obstetrician and Gynecologist-Discusser*

**John F. Barlow, M.D., FCAP\*\***  
*Pathologist-Editor*

DR. BARLOW: Although the patient to be discussed today was much more fortunate, I would like to show what can happen with the pathologic process that she has. The following is a case from 1965. The first picture shows what we saw opening the abdomen at autopsy, (Fig. I). The second picture shows a large tear in the uterus after the blood clot had been cleared away, (Fig. II). Rupture of the uterus can be fatal. The case today is not really a diagnostic problem, but Dr. Mutch will try to enlighten us on the whole problem of rupture of the uterus.

### CASE No. 75

This 27 year old Gravida II, Para I was admitted to Sioux Valley Hospital in the 36th week of pregnancy for lower abdominal pain and a question of early labor. The patient had no previous history of serious illness or complications in this pregnancy or her previous pregnancy. She was visiting from out of state and had received prenatal care elsewhere. Her previous pregnancy had been five years ago by a cesarean section resulting in a 7 lb. 9 oz. female infant. The indication for the first cesarean section was ruptured membranes for over 24 hours and a trans-

verse lie. There was a febrile episode after surgery. There was no other history of serious illness or hospitalizations except an appendectomy. The menarche had been at age 13, the cycle had been 30 days and there was no abnormal menstrual history or history of abnormal pelvic examination.



**Figure I**

Opened abdomen at autopsy with massive hemorrhage.

\* Obstetrician and Gynecologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.



**Figure II**

Rupture of uterus in longitudinal tear of uterus after blood clot has been removed.

**PHYSICAL EXAMINATION:** Pulse 84 per minute and regular; respirations 18 per minute and regular. Blood pressure 120 systolic and 62 diastolic; temperature 98.6°F; weight 145 lbs. (normal weight 125 lbs.). The examination of the head and neck was unremarkable. The lungs were clear to auscultation and percussion. The heart was of normal size and showed a regular rhythm with no murmurs. There was a previous appendectomy scar and a left paramedian scar. The uterus was of normal size for the time of gestation. There was a soft, non-tender mass in the left lower quadrant which continued to enlarge during the period of observation. The baby was estimated at 6 lbs. with vertex presentation and a fetal heart rate of 140 per minute. The remainder of the physical examination was unremarkable.

**LABORATORY DATA:** Urinalysis; yellow, cloudy, specific gravity 1.019, pH 6.0. Negative for protein, glucose, bile and hemoglobin. There was a large amount of ketone bodies. The sediment showed 1-2 WBC's/HPF and a moderate amount of epithelial cells. Hemoglobin was 12.5 gms/dl, RBC 4.00 million/mm<sup>3</sup>, Hct 38 Vols/dl, mean corpuscular hemoglobin 31 micromicrograms, mean corpuscular volume 95 cubic micra, mean corpuscular hemoglobin concentration 33%. Total leukocyte count 12,400/mm<sup>3</sup> with 83% segmented neutrophils, 2% eosinophils, and 15% lymphocytes. The red cells appeared normochromic, normocytic on smear and the platelets appeared normal in number and morphology. The patient was Rho (D) positive.

**HOSPITAL COURSE:** The patient was seen in the emergency room and admitted for observation of early labor. She began having contractions while under observation and a mass was noted in the left lower quadrant which was considered to be a ruptured uterus. The patient underwent

a repeat cesarean section. At the time of operation there was a 10 cm. rupture of the uterus through the old (classical cesarean section) scar but with intact membranes. A 5 lb. 15 oz. male was delivered with an Apgar of 8 at 1 minute and of 5 at 5 minutes. The blood loss was estimated at less than 100 cc.

**DR. MUTCH:** After the infant was delivered there was very minimal blood loss. There was no blood in the peritoneal cavity. The cesarean section was performed by enlarging the tear in the uterus. The placenta was delivered spontaneously. The edges of the uterus were trimmed and closed in three layers. The uterus appeared healthy and repair seemed adequate.

In summary, we have a woman who had prenatal care elsewhere and a history of a previous cesarean section. From the appearance of the scar on the abdomen, I think we can assume that the previous cesarean section was done by the classical technique. With a history of abdominal pain, an enlarging mass, there were not too many diagnoses to consider other than the rupture of the uterus. One might consider infarction of an anterior uterine wall leiomyoma with degeneration. This is remote. Another possibility might be a twisted and infarcted ovarian cyst. It would have to be anterior to the broad ligament. This is also unlikely.

Ruptures of the uterus can be classified into three groups:

1. Those occurring after a previous uterine operation such as a Ccesarean section, myomectomy or salpingectomy or previous uterine damage from a cervical laceration.
2. Those not preceded by surgery—but associated with such conditions as cornual pregnancy, adenomyosis, congenital anomalies of the uterus, infarction of a myoma with rupture, and invasion of the uterine wall by a trophoblastic process such as hydatidiform mole or choriocarcinoma. These ruptures also occur after pitocin or obstetrical manipulations.
3. Silent rupture—This is a separation of a previous uterine scar usually seen at repeat cesarean section.

The incidence of a ruptured uterus varies over the country from 1 in 578 to 1 in 2,756. Hofmeister in Wisconsin reported an incidence of 1 in 3,000. Beacham found 1 in 1,951 deliveries at Louisiana State University. Eastman quotes figures from India of 1 in 761 pregnancies. Approximately 5% of the maternal mortality in the United States is due to rupture of the uterus.

The case under discussion brings up the method of performing a cesarean section. The classical technique of cesarean section is still a very popular



method for performing cesarean sections in the state of South Dakota. It is my feeling that except for a transverse lie with ruptured membranes, there is rarely an indication for a classical cesarean section. In 1965 there were six maternal deaths in South Dakota. Four of these were from ruptures of the uterus following previous classical cesarean sections. The pictures that were shown at the beginning of this conference were of a 27 year old woman who came off the elevator dead on arrival from a ruptured classical cesarean section scar. The low cervical cesarean section is no more difficult technically than a classical longitudinal incision. The bleeding is less and the postoperative recovery is smoother.

I think an important point is that there is a difference in the timing of the rupture with the classical as opposed to the low transverse technique. Eastman reported at John's Hopkins a rupture rate of 1% during pregnancy and 1.1% during labor after classical cesarean sections. The rupture rate for the low transverse incision is about the same as for the classical incision, but the ruptures of the low transverse incision are usually only during labor. However, the classical cesarean section scar may rupture during pregnancy and the patient, especially if she is some distance from medical care, may lose the baby or her own life before she can find medical attention. At the Margaret Hague Maternity Hospital in a series of 7,000 cesarean sections over 27 years, three-fourths of which were performed by the low transverse incision, there were but three ruptures of the low transverse scar with no maternal deaths and one fetal death. Therefore, the rupture of the low transverse incision has a maternal mortality approaching 0% and a fetal mortality approaching the same.

The classical cesarean section scar has a much higher maternal mortality rate, up to 28% in one series and also a higher fetal mortality rate up to 35%. Some would make that fetal mortality much higher. The statistics are heavily weighted in favor of performing the low transverse incision for cesarean section.

I was taught the correlation of a ruptured classical cesarean section scar with the following statistics:

	Classical	Low Cervical
Maternal mortality	15%	0%
Fetal mortality	85%	15%

Hofmeister reviewed 76 maternal deaths from ruptured uteri in the state of Wisconsin between 1953 and 1966. Thirteen of these cases were from ruptured classical cesarean sections. One death in this group occurred from a ruptured low transverse

incision. In Beachman's series at LSU, there were reported 29 ruptured classical cesarean section scars with 7 deaths in this group. The fetal mortality rate was 56%.

The question arises as to whether you should do a hysterectomy after rupture of the uterus or should you do a cesarean section and then repair the uterus. In a series in Mexico, 28 cases were followed after cesarean section repair following rupture of the uterus. Nineteen of the women had subsequent pregnancies and eight of the children were delivered vaginally and the rest by cesarean section. Therefore, you can repair a ruptured uterus which can function normally in later pregnancies. Whether a hysterectomy should be done or not depends on the type and location of the tear, how long the patient has been in labor, the parity of the mother, and whether she wants more children.

I think there is one more point to be made in this case—the wisdom of permitting a woman to travel in the last four weeks of pregnancy, especially with a history of a previous cesarean section. This lady had access to competent physicians and adequate medical facilities. I shudder to think what might have happened should she have been on the road between here and home in the middle of the country where prompt medical attention might not have been immediately available.

I think you have to realize there is little bleeding from the rupture of a classical scar until the baby is extruded and the placenta is separated. This may happen very quickly and be followed by a massive hemorrhage. In our case today, the baby was not expelled yet and there was no bleeding. The rapidity with which rupture and hemorrhage can occur is amazing. The diagnosis of a rupture of the uterus must be suspected in any case where predisposing factors for uterine rupture exist.

In the case we have previously referred to by the pictures, the patient had been admitted to another hospital for her elective cesarean section the next morning. She developed abdominal pain and was seen by a physician who suspected gallbladder disease. She was referred for treatment and was admitted to our hospital DOA.

I do not feel that it is a matter of surgical technique as to whether rupture of the uterus will occur. The low transverse incision is just a much safer type of incision because it lies behind the bladder flap. At one time I suggested at a South Dakota Obstetrics and Gynecological Society meeting that we go on record discouraging the classical cesarean section technique except under extenuating circumstances and set up a training program to teach those

physicians who are interested in the technique of a low cervical cesarean section.

DR. BARLOW: Why do classical cesarean section scars rupture more frequently than low transverse scars?

DR. MUTCH: I don't think they do. In a low transverse incision the bladder is usually brought up as a flap over the incision. In ruptures of the low transverse incision, the patient often has pain and has symptoms during labor and often hematuria; so the diagnosis of the rupture can be made. In a classical cesarean section, the rupture is free into the peritoneal cavity and occurs more precipitously.

DR. BARLOW: How many cesarean sections can you do on a patient before you have to say they should have no more children?

DR. MUTCH: This is variable. The general rule is three, but I and some of the other obstetricians have patients who have had as many as six cesarean sections. This is an individual matter depending on the condition of the uterus and desire of the patient.

DR. BARLOW: Can you deliver patients vaginally safely who have had a previous hysterotomy?

DR. MUTCH: I think this depends on the reason for the original cesarean section. For instance, in a parous patient who develops placenta praevia and has to have a cesarean section, I think that this patient may deliver vaginally in subsequent pregnancies depending on the physician's experience. On the other hand, if the patient had a cesarean section for cephalopelvic disproportion, this situation will not change and she should always have delivery by cesarean section.

\*DR. DORENCE ENSBERG: Isn't it true that hemorrhage is more severe and rupture faster in a uterus that has not had a previous scar?

DR. MUTCH: Yes, I think this is because often ruptures in an unscarred uterus are from some type of manipulation such as high or mid forceps, version and extraction or after intravenous pitocin. Therefore, as you imply the uterus ruptures through a more vascular area than through the previous scar.

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\*\* Intern, Sioux Valley Hospital.

\*\*\* Obstetrician and Gynecologist, Sioux Valley Hospital; Clinical faculty, School of Medicine, The University of South Dakota.

\*\*\*\* Obstetrician and Gynecologist, Sioux Valley Hospital. Clinical faculty, School of Medicine, The University of South Dakota.

I think that if we had waited an hour on this lady, we would have had more bleeding and a dead baby. The added problem in a case like this is that if you have not followed the patient during her prenatal course, it often takes a longer period of time to make the proper diagnosis and treatment.

\*\*DR. RICHARD JONGEWAARD: You have inferred to me in other discussions that the febrile course after a cesarean section somehow weakens a scar in the uterus.

DR. MUTCH: Yes, I think that inflammation or infection in a wound of the uterus certainly can make a poorer scar. This is not dissimilar to what we see in abdominal wounds. There is interference with the normal healing process.

\*\*\*DR. THOMAS LOOBY: It has been shown experimentally that if you create defects in the uterine wound they are more likely to rupture.

\*\*\*\*DR. ORR: Do you let your patients who have had previous myomectomies deliver vaginally?

DR. MUTCH: I deliver nine out of ten such patients by cesarean section. I always deliver by cesarean section those patients with myomectomies that extended into the uterine cavity. I should say, however, that I don't think anyone should let a patient who has had a previous classical cesarean section undergo spontaneous labor. The chances for the uterine rupture are too great.

DR. ORR: The Canadians will dispute us on several of these points. They feel that you can do classical cesarean sections. I do not agree. Although the textbooks say that the rupture of classical and low cesarean section scars are equal, this has not been my experience. I have also never had a live baby after a rupture of the uterus from a classical section. I had a patient who was a laboratory technologist in this hospital who was an interesting case. This patient had had classical and low transverse cesarean sections previously. She developed abdominal symptoms in the third trimester of one pregnancy and had to be explored. At that time she had adhesions over the old classical scar and intestinal obstruction. The uterine scars looked good. She recovered from her exploratory surgery very well and underwent a cesarean section for her delivery. At that time there were several incipient ruptures in areas of both the transverse and classical scars, although they had not been there several weeks previously and there had been no patient symptoms.

I also agree that you should not let a patient with a previous classical section scar go into labor. If you



have ever tried to follow such a patient through labor, it is a frightening experience. Every time they experience any abdominal pain, you wonder if they are rupturing their uterus.

DR. MUTCH: Yes, it would certainly take somebody with a lot of obstetrical training to follow such a patient through labor. I should also mention at this point that in classical scars, bowel may become adherent to the scar of the uterus. Some surgeons will sew the bladder to the classical scar. This becomes a real problem when you have to open the abdomen hurriedly for a cesarean section. You may go right through the bowel wall or into the bladder. I might add that what Dr. Orr described was the so-called silent rupture in the laboratory technologist. These are not usually classified as uterine ruptures with clinical import.

\*DR. DENNIS RIES: Does everybody agree that the incidence of rupture after a low transverse cesarean incision is the same as for the longitudinal classical technique?

DR. MUTCH: I think it is a matter of definition. If you include every marginal silent rupture seen at surgery, the incidence is equal. However, the more serious ruptures occur through the classical scars.

DR. ORR: Do you do a low transverse incision in a patient who has had a previous classical cesarean section?

DR. MUTCH: Yes.

DR. ORR: I do also. I have never been disappointed in the low transverse incision, although I have had one case of a transverse lie where I had to extend the incision upward to deliver the baby. This left an anchor-shaped scar.

DR. MUTCH: I should also point that there is considerably less blood loss with a low transverse incision than with the classical type of section. The patients also do better postoperatively with the low transverse incision. I don't think the patients have as much ileus and I think they recover faster.

\*\*DR. GREG MAGNUSON: Is it general practice over the country in obstetrics only to do the low transverse incision?

DR. MUTCH: In the paper from the Margaret Hague Hospital in New Jersey some years ago, there is a statement that the only proper incision for cesarean section is the low transverse incision. Some

people will argue that you should not do a low transverse incision with a placenta praevia, but I have never found this much of a problem. Do you agree, Russ?

DR. ORR: Yes, I don't think it makes any difference. I think one is surprised, however, that when you think you are making a symmetrical incision, the uterus is often twisted and when you feel the scar at the second classical cesarean section operation you will notice that the incision is way up near the left fallopian tube somewhere.

DR. BARLOW: This has been indeed an interesting discussion. I always have to get in my two cents worth. I would like to point out that any woman in pregnancy is always unstable as to hemorrhage and such an emergency as ruptured uterus may occur. Because of the instability of the pregnant woman as to hemorrhage, it is always wise to have the patient typed and her serum screened for antibodies during that pregnancy. If there is an antibody present, the blood bank should know it, and it will be much easier to get compatible blood rather than having to identify the antibody before transfusions can be given.

There are a number of indications for antibody screening in pregnancy, one is certainly for the fetal welfare if potential hemolytic disease of the newborn is to be detected, assessed and treated before or at delivery. However, I still think that the major reason for antibody screening in pregnancy is to know all you can about the patient should sudden hemorrhage occur and transfusions be indicated. If you know an antibody is present and what it is, compatible blood will be found much more quickly.

1. "Rupture of Uterus in Late Pregnancy—Changing Concepts Based Upon Studies of 50 Cases" E. G. Waters and M. W. Mull, *Ob. & Gyn.* Vol. 20 No. 5, p. 585, Nov., 1962.
2. *Williams Obstetrics*—Eastman and Hellman, 13th edition.
3. "Rupture of the Uterus at New Orleans Charity Hospital—A report of 101 Cases and Comparison with Previous report of 96 cases" Beacham W. D., *Am. J. Ob. Gyn.*, pp. 1083, Vol. 106, 1970.
4. "Ibid (Discussion)"—Hofmeister, F. J. *Am. J. Ob. Gyn.*, p. 1096, Vol. 106, 1970.
5. "Pregnancy Following Previous Uterine Rupture Study of 19 Patients," L. Reyes-Ceja et al, *Ob. Gyn Survey* p. 221 Vol. 25, 1970.

\* Resident in Family Practice, Sioux Falls.

\*\* Intern, Sioux Valley Hospital.

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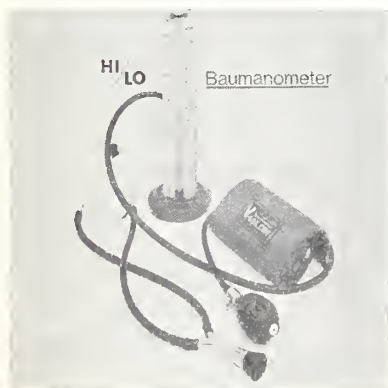
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or a package insert in many instances. This would constitute a substantial saving for the manufacturer.

By a complete compendium, do not mean a volume of prohibitive size. You don't need a book describing 25,000 products with an enormous amount of repetition. Rather, drugs should be arranged by class. Mutually applicable information would be provided, along with brief discussions pinpointing differences in specific drugs of that class. Listings would be cross-indexed in a useful way.

#### **Other Available Documents as Sources of Information**

Existing references such as PDR and the AMA Drug Evaluation are obviously useful but they are incomplete. Either they are not cross-referenced by generic name and do not group drugs with similar characteristics, or they do not list all the available and legally marketed drugs. And some of those omitted may be very useful.

On the other hand, drugs made by more than one supplier, tetracycline for example, may be fully described a dozen times in the same book.

While perhaps PDR could be rearranged and cross-indexed with generics included, and while the AMA Drug Evaluation might also be modified and expanded, I am not sure that the end result would have all the attributes required for a useful compendium. At the same time, you would run the risk of amassing a voluminous and unwieldy tome.

#### **Should Editorial Comments Accompany the Listings?**

Subjective judgments, in my opinion, have no place in a compendium. However, if there is substantial evidence based on a sound body of science concerning relative efficacy of several drugs, certainly that information should be included. The committee of experts compiling and editing a particular section would also have to assess

and indicate instances where a meaningful difference between drugs is pertinent.

#### **Sponsorship, Compilation and Editing**

Producing a book like this would undoubtedly be difficult and demanding. It would obviously take a great deal of talent and expertise, and would require a varied and experienced group, ranging from writers and editors to highly skilled clinicians and pharmacologists. Style, format and clarity of language would play an important part in determining the usefulness of the book. And it should be updated periodically and completely revised annually.

I have no opinion whether the government or the private sector should sponsor and/or finance the compendium. What is most important is that the compendium be an authoritative, objective and useful source of information for the doctor to have at hand as a ready reference.

should in no way imply control over the practitioner's prerogatives.

#### **Why Another Compendium?**

A practicable, single-volume compendium cannot, nor is it necessary to, include all drugs on the market today. From my practice of internal medicine for some 15 years, my experience as a consultant, and as a faculty member of four or five medical schools, I would estimate that a doctor uses only 30 to 35 drugs regularly. The 1972 Physicians' Desk Reference, incidentally, contained about 2,500 entries.

As to whether there should be a federal compendium, in my opinion, as stated earlier, the answer is easy—there should *not* be one. The proposal assumes that existing compendia are inadequate. We're not sure of that at all. Whatever its imperfections, the present drug information system in the U.S. is open, multifaceted, pluralistic and extensive. Good compendia exist, as well as other ample sources on drug therapy, ranging from journal literature through AMA Drug Evaluation to company materials. Not all physicians may use such sources as often or as well as they should, but that is the fault of the man, not of the sources.

In any event, rather than pro-

duce another book, it makes much more sense to work on improving existing compendia, and perhaps they could, as knowledge advances, include more accumulated clinical data and experience, and more information on drug interactions and adverse reactions.

#### **Implications of a Federal Compendium**

Take a hard look at the implications of a federal compendium. It would have the force of law, virtually dictating what drugs to use and how to use them. In effect, it would be a regulatory document with legal or quasi-legal status, posing medical/legal problems similar to those the doctor may now encounter if and when he departs from the provisions of the package insert. A compendium under federal aegis would tend to restrict decisions on drug therapy to one orthodox level—a most dangerous trend for medicine.

#### **New Compendium—A Medical Option**

I detect no ground swell of initiative or support whatsoever for a federal compendium—or, for that matter, for a new compendium of any type. A 1969 PMA survey conducted by Opinion Research Corporation found that only 15 per-

cent of those physicians interviewed felt a new compendium was needed. And a large majority did not favor the involvement of the federal government if one were to be created, preferring instead a nongovernmental consortium.

Even if we come to a time when the medical profession itself opts for a new kind of compendium, it should be handled and financed, ideally, outside both government and industry. Final review and editorial authority could be delegated, say, to specialty bodies and medical societies—but above all, *not* the government.

Surely the health care system in the United States has far more vital matters to consider than the extensive cost and effort that would have to go into the preparation and maintenance of a new, monolithic compendium, and especially one bearing the imprimatur of the federal government.

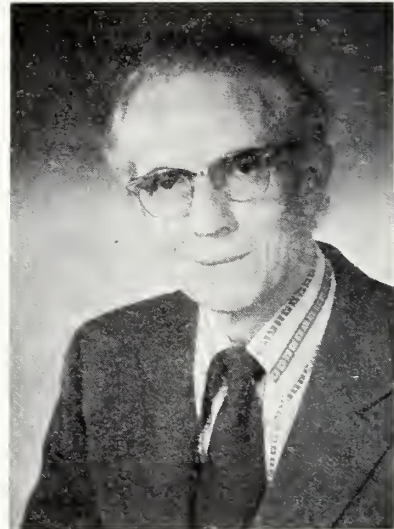
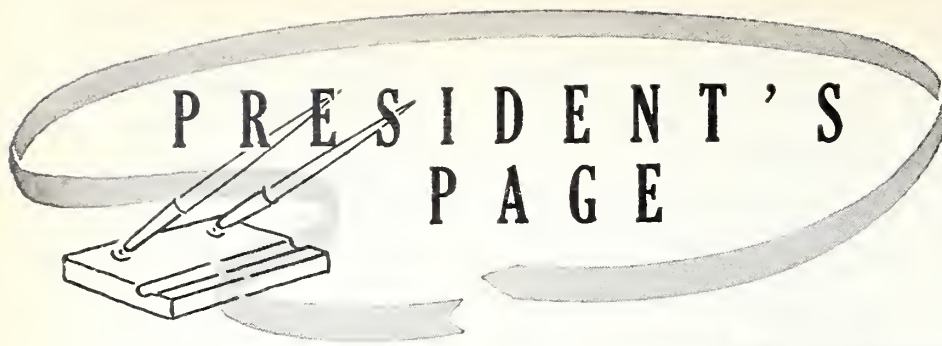
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# P R E S I D E N T ' S P A G E



Your thoughts and suggestions regarding the medical issues of this coming year will be sincerely welcomed. Appreciating the honor and privilege of representing you, I am acutely aware of my need for your input in fulfilling your trust. Your help will be greatly needed and appreciated.

To Ted Sattler and his predecessors, the hard-working officers and committee members and the loyal staff of the Medical Association, our sincere thanks go, for the past year of accomplishments. The establishment of the four year medical school is a milestone in the history of medicine in South Dakota, for which we are most indebted to the able leadership of Karl Wegner. This ongoing program deserves our continued support and cooperation for its fulfillment. Our past president has worked long and hard toward this goal. Ted Sattler has devoted approximately two months out of the past year to the Medical Association affairs and has travelled many thousands of miles in the performance of his duties.

The next year will present real challenges to the medical profession, including the Kennedy-Mills bill, P.S.R.O. and other issues which are beyond the scope of individuals. Only as an organization can our wishes be expressed.

Sincerely,  
Robert E. Van Demark, M.D.  
President, South Dakota  
State Medical Association



## COUNCIL MEETING MINUTES

5:00 P. M.  
Friday, April 19, 1974

Chief Gall Inn and Resort  
Mobridge, South Dakota

The meeting was called to order by Dr. Fred Leigh, Chairman of the Council. Those present for roll call were Doctors T. H. Sattler, R. E. Van Demark, A. P. Reding, R. H. Quinn, Fred Leigh, W. R. Taylor, E. H. Heinrichs—Alternate Councilor, R. G. Belatti—Alternate Councilor, C. L. Swanson, Harvard Lewis, B. J. Begley, Warren Jones, Paul Aspaas, Duane Reaney, J. N. Hamm, R. G. Nemer, James Ryan and B. C. Gerber. Also in attendance were Dr. J. A. Muggly, Mr. Neil Sutherland of the AMA staff, and two public health service physicians.

Dr. Begley moved that the Council seat the two Black Hills District Councilors, Dr. J. N. Hamm and Dr. Russell Harris, and the two Alternate Councilors, Dr. T. E. Mead and Dr. A. J. Barrett. The motion was seconded by Dr. Lewis and carried.

Dr. Swanson moved that the minutes of the previous Council meeting be accepted as published. The motion was seconded by Dr. Nemer and carried.

The Council considered the report of the Commission on Scientific Medicine.

### MINUTES OF THE MEETING OF THE COMMISSION ON SCIENTIFIC MEDICINE

1:30 P.M. Executive Office  
Saturday, March 23, 1974 Sioux Falls, South Dakota

The meeting was called to order at 1:30 p.m. by H. Phil Gross, M.D., chairman. Present for roll call were Drs. Gross, B. T. Otey, R. J. Zakahi, Joseph Kass, R. B. Leander, Juan Chavier and R. R. Thornton.

The minutes of the fall meeting were approved as mailed to each member.

The scientific program for the 1974 annual meeting was reviewed and discussed. The Commission determined that a decision on the Thursday afternoon seminar should be postponed until developments regarding PSRO have been evaluated to determine if a seminar on this subject would be of benefit to the physicians of the State. If a seminar is held, all members would be notified by a special mailing.

All out of state physicians will be assigned a host doctor by the Aberdeen Medical Society.

A discussion was held on the continuing education program in South Dakota. The commission reviewed materials submitted to the Executive office by MedCom regarding their educational programs. The Commission recommended that this material be submitted to E. H. Heinrichs, M.D., director of the State program for evaluation of the quality of the programs before a recommendation is made by the Association. However, the Commission members indicated their approval, in principle, of the program.

A letter from the Commissioner of Drugs and Substances Control in South Dakota was reviewed by the commission members for information. The Commission discussed the forthcoming breast cancer screening program and the request from Dr. JoAnn Haberman for information regarding facilities for mammography in the State. The executive office was directed to contact the radiologists in the state to determine the location of this equipment and forward the information to Dr. Haberman.

The meeting adjourned at 3 p.m.

Dr. Swanson moved that the Council accept the report of the Commission on Scientific Medicine. The motion was seconded by Dr. Ryan and carried.

The Council considered the report of the Commission on Legislation and Governmental Relations.

### MINUTES OF THE MEETING OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

9:30 A.M. Executive Office  
Saturday, March 23, 1974 Sioux Falls, South Dakota

The meeting was called to order by Dr. R. G. Gere, Chairman of the Commission on Legislation and Governmental Relations. Those present for roll call were Doctors R. G. Gere, R. B. Henry, V. Janavs, K. Zvejnieks, R. J. Foley, Robert Hayes, Dr. T. H. Sattler, President of the Association, was also in attendance.

It was moved, seconded and carried to approve the minutes of the previous meeting as published.

The Commission reviewed correspondence received from surrounding State Boards concerning the method of appointment of lay members to their State Boards. No action was taken.

The Commission discussed the proposal submitted to the South Dakota High School Activities Association which would allow chiropractors to perform athletic physicals and the recent vote rejecting this proposal. The Commission members were urged to talk with the school superintendents and principals in their area and encourage them to reject this proposal if it is submitted again in 1974.

Mr. Johnson briefly reviewed the 1974 legislative session for the information of the Commission members. Dr. Hayes reported that the Legislative Research Council probably will undertake a study of the blood banking problem and a bill concerning this will probably be introduced during the 1975 session.

The Commission discussed the Supreme Court decision which would allow state governments to restrict the ownership of drug stores. No action was taken.

The Commission reviewed the proposed Indian Health Care Improvement Act. Dr. Sattler requested that any suggestions or recommendations which might help alleviate the Indian health care problem in South Dakota be sent to Dr. J. B. Gregg, Chairman of the Indian Health Task Force Committee for the Committee's review.

The Commission reviewed legislation from the state of Illinois concerning chiropractors doing acupuncture. The executive office was directed to send all information received from other states regarding acupuncture to the Commission members to keep them up to date.

The Commission commended Mr. Johnson, Dr. Sattler and Dr. Hayes for their work during the legislative session.

The meeting adjourned at 12:30 p.m.

Dr. Swanson moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Aspaas and carried.

The Council considered the report of the Commission on Medical Service.

### MINUTES OF THE MEETING OF THE COMMISSION ON MEDICAL SERVICE

1:30 P.M. Executive Office  
Saturday, March 23, 1974 Sioux Falls, South Dakota

The meeting was called to order by Dr. B. C. Gerber, Chairman of the Commission on Medical Service. Those present for roll call were Doctors B. C. Gerber, Anton Petres, Warren Jones, Guy Tam, Howard Saylor, David Holzwarth, R. F. Hubner, J. A. Rud. Also in attendance were Dr. R. H. Hayes and Dr. T. H. Sattler, President of the Association.

Dr. Saylor moved to accept the minutes of the previous meeting as published. The motion was seconded by Dr. Jones and carried.

The Commission reviewed the final Guidelines for High School Athletic Examinations as adopted by the Council.

Dr. Gerber submitted information on student health care programs in South Dakota schools of higher education. The executive office was directed to keep this information on file for possible future use.

The Commission discussed the proposal submitted to the South Dakota High School Activities Association which would allow chiropractors to perform athletic physicals and the recent vote rejecting this proposal. The Commission members were urged to talk with the school superintendents and principals in their area and encourage them to reject this proposal if it is submitted again in 1974. A letter from Dr. Merritt Auld to Mr. Dave Evans, Executive Secretary of the South Dakota High School Activities Association, opposing the injection of novacaine in a sprained joint of a high school student was read. Dr. Saylor moved that the Commission recommend to the Council that a resolution be sent to the South Dakota High School Activities Association stating that local anesthetic injections in injured joints and ligaments be considered an improper form of medical treatment for high school athletes when it is used to enable an athlete to participate further in athletic competition immediately. The motion was seconded by Dr. Tam and carried.

The Commission reviewed the three appointments to the State Medical Association Committee on Rural Health. The Commission recommended that Mr. Earl Bihlmeyer from the Medical School, Mr. Don Kurvink from Comprehensive Health Planning and a representative of the State Veterinary Association be appointed to this Committee also.

The Commission reviewed the proposed x-ray questionnaire prepared by the State Health Department which is to be sent to physicians in the state of South Dakota. The Commission recommended that question No. 1 should read, "Is x-ray equipment and/or nuclear medicine used in your office or clinic?" "Nuclear medicine license number \_\_\_\_\_". The Commission also recommended that the following two questions be included in the questionnaire: 11. Have you had any training in the use of x-ray equipment in addition to medical school? 12. Do you maintain protection and/or dosage accumulation records? Dr. Saylor moved that the Commission recommend to the Council that the x-ray questionnaire as amended be approved. The motion was seconded by Dr. Rud and carried.

The Commission discussed the Kidney Disease Treatment Program of Medicare and the proposed statement from the Minnesota State Medical Association concerning this program. The Commission recommended that a copy of this proposed statement be sent to Dr. Robert Hayes as secretary of the Renal Dialysis Committee for South Dakota.

Dr. Joseph Welty of the University of South Dakota Medical School discussed the continuing medical education program being carried on by his department and particularly the nursing hypertension seminars which are being held throughout the state. Dr. Gerber read a letter from a physician in Aberdeen outlining this physician's feelings regarding the arrangements made for such seminars in the Aberdeen area. The Commission recommended that all future proposed programs be referred to the Commission on Medical Service prior to the establishment of such programs

and that local physicians should be invited to participate in these programs if they wish. This can be done by sending the necessary information to the district president or secretary.

The Commission reviewed the letters from Blue Cross indicating that Blue Cross will cover diagnostic outpatient services performed in the hospital outpatient department. Dr. Saylor moved that the Commission recommend to the Council that the State Medical Association urges non-discriminatory coverage of diagnostic procedures wherever they may be provided, be it in a physician's office, x-ray clinic or outpatient department of the hospital. The motion was seconded by Dr. Jones and carried.

The meeting adjourned at 4:30 p.m.

Dr. Van Demark moved that the Council recommend to the South Dakota High School Activities Association that local anesthetic injections in injured joints and ligaments be discouraged. The motion was seconded by Dr. Quinn and carried. The Council considered the Commission's recommendation for appointments to the State Medical Association's Committee on Rural Health. Dr. Reding moved that Dr. Jim Bailey, secretary-treasurer of the South Dakota Veterinary Association, be appointed to the Rural Health Committee. The motion was seconded by Dr. Nemer and carried. Dr. Begley moved that Mr. Earl Bihlmeyer and Mr. Don Kurvink be appointed to the Rural Health Committee also. The motion was seconded by Dr. Van Demark and carried. The Council considered the Commission's recommendations regarding the x-ray questionnaire prepared by the State Health Department. Dr. Heinrichs moved that the Council accept the Commission's recommendation concerning the x-ray questionnaire. The motion was seconded by Dr. Van Demark and carried. The Council considered the recommendation of the Commission concerning the establishment of medical education programs by the School of Medicine for paramedical personnel in South Dakota. Dr. Heinrichs moved that the Council recommend that any out-reach program from the University of South Dakota be coordinated with the local Director of Medical Education and/or Chief of Staff of the hospital. The motion was seconded by Dr. Begley and carried. Vote: 14 for; 1 against. Dr. Begley moved that the portion of the Commission report recommending that all future proposed programs be referred to the Commission on Medical Service prior to the establishment of such programs be deleted. The motion was seconded by Dr. Heinrichs and carried. The Council reviewed the section of the Commission report concerning Blue Cross covering diagnostic outpatient services performed in the hospital outpatient department. Dr. Begley moved that the recommendation of the Commission be amended to indicate that the State Medical Association urges non-discriminatory coverage of diagnostic procedures by Blue Cross and Blue Shield wherever they may be provided, be it in a physician's office, x-ray clinic or outpatient department of the hospital. The motion was seconded by Dr. Reding and carried. Dr. Swanson moved that the Council accept the report of the Commission on Medical Service as amended. The motion was seconded by Dr. Lewis and carried.

The Council considered the report of the Commission on Internal Affairs, Communications and Liaison.

## **MINUTES COMMISSION ON INTERNAL AFFAIRS COMMUNICATIONS AND LIAISON**

**9:30 A.M.**

**Saturday, March 23, 1974**

**Executive Office**

**Sioux Falls, South Dakota**

The meeting was called to order at 9:30 a.m. by John F.



Barlow, M.D., chairman. Present were Drs. Barlow, T. A. Hohm, Kenneth Muckala, R. E. VanDemark, James Shaeffer, R. E. Shaskey, W. O. Hanson, Loren Amundson and H. J. Stensrud

Mr. Johnson discussed the financial picture of the Association and reviewed budget items which are affected by inflation. Mr. Johnson also presented information to the Commission members on the financial situation of the South Dakota Journal of Medicine and discussed the future potential for advertising income. An in-depth discussion followed on the fiscal policies of the Association and how the Association can continue to provide services to the membership on the present income. Dr. Amundson moved that the Commission recommend to the Council that in light of the increased cost already experienced in operating the Association and in light of the further anticipated increased costs in the areas of Physician Travel, Postage, Supplies, Telephone, Staff Travel, Journal of Medicine, Salary and Social Security, that a \$50 annual dues increase be proposed to the House of Delegates at the 1974 annual meeting, to become effective January 1, 1976. The motion was seconded by Dr. Hohm and carried unanimously. The Commission also recommended that an extensive educational program be carried out so the membership can be fully informed regarding Association expenditures and the need for the dues increase.

Dr. Muckala moved that the Commission recommend to the Council that the Association continue to publish the South Dakota Journal of Medicine; that the Association fund any deficit incurred in the foreseeable future; and that the Journal be provided to the membership as a benefit of Association membership. The motion was seconded by Dr. Amundson and carried.

Dr. Amundson discussed a proposal of the South Dakota Chapter of the American Academy of Family Physicians to purchase space in the South Dakota Journal of Medicine to use as a newsletter. Dr. Stensrud moved that the Commission recommend acceptance of the proposal of the AAFP. The motion was seconded by Dr. Shaskey and carried.

The Commission discussed the problem of letters to be used to designate physicians assistants inasmuch as legislation has been enacted that prohibits them from using the initials "P.A.". The Commission made the following suggestions:

A.P. Assistant Physician  
D.A. Doctor's Assistant  
Ph. A. Physician's Assistant  
C.P. Asst. Certified Physician's Assistant  
P. Asst. Physician's Assistant  
M. A. Medical Assistant

The Commission recommended that these suggestions be forwarded to the South Dakota State Board of Medical and Osteopathic Examiners for their consideration inasmuch as they are responsible for the administration of the Physician's Assistant law.

The Commission discussed the February financial report and recommended that it be accepted for information.

A letter from the South Dakota Public Television Network regarding the "Killers" health series was reviewed for the information of the commission members.

Dr. VanDemark reported to the Commission on the work that has been done to attempt to set up a medical-legal panel to review possible malpractice situations. He indicated that discussions will be continued in this area, but no final recommendation have been formulated as yet.

The Commission discussed the Certificate of Need law and received an interim report that a meeting will be held later in March to review the legislation.

Representatives of the South Dakota Pharmaceutical Association met with the Commission and discussed problems

which have been encountered in South Dakota in relationships between physicians and pharmacists. The following points were discussed:

1. Physician writing more than one prescription on one blank.
2. Nurses calling the original prescription to the pharmacy.
3. Requests to refill prescriptions from the original bottle.
4. Physicians not including refill instructions on original prescriptions.
5. Physicians allowing nurses to authorize refills by phone.
6. Free choice of pharmacy by physician to patient.

The Commission recommends to the Council that these points be discussed in each District Medical Society that the problems can be handled on a local level where indicated.

The meeting adjourned at 12:15 p.m.

Mr. Johnson reviewed the March financial statement for the Council's information. Dr. Begley moved that paragraph two of the Commission report be deleted and in its place the Council recommend that the Budget and Audit Committee study in depth the expenses and resources of the Association and make a recommendation when feasible after their deliberations regarding Association finances. The motion was seconded by Dr. Swanson and carried. The Council considered the suggested initial designation for physician assistants. Dr. Heinrichs moved that D.A., M.A. and A.P. be deleted as recommended initials. The motion was seconded by Dr. Aspaas and carried. Dr. Quinn moved that the initials Phy.A. be utilized by physician assistants. The motion was seconded by Dr. Aspaas and carried. Dr. Begley moved that the report of the Commission on Internal Affairs, Communications and Liaison be accepted as amended. The motion was seconded by Dr. Swanson and carried.

The Council considered the report of the Task Force on Indian Health Care as submitted by Dr. J. B. Gregg. A discussion was held with the public health service physicians concerning health care available to the Indian population.

The meeting adjourned at 7:00 p.m., and reconvened at 9:00 a.m., Saturday, April 20. Dr. Leigh declared a quorum present, and the meeting proceeded. Dr. Leigh introduced Herbert Carr, D. O., a physician from the McLaughlin Indian Health Service.

Nominations were in order for the Distinguished Service Award to be presented at the annual meeting banquet. A secret ballot was cast and the results will be announced on June 1. Nominations were in order for the Community Service Award to be presented at the annual meeting banquet. A secret ballot was cast and the results will be announced at the banquet on June 1. Dr. Heinrichs moved that the executive office specifically outline the rules and regulations for the Distinguished Service Award and the Community Service Award in a one page letter to be sent to the district secretaries and Councilors in November of each year; and the Councilor be responsible for securing nominations for consideration at the January Council meeting. The Council then refers these nominations to the Special Nominating Committee for recommendation and a final vote cast by the Council at its spring meeting. The motion was seconded by Dr. Nemer and carried. The executive office was directed to provide a list of the previous recipients of these awards, the dates received and the location of each recipient to the district secretaries and Councilors for their information.

Dr. Heinrichs moved that the Council commemorate Dr. and Mrs. H. Russell Brown and Dr. and Mrs. G. E. Tracy on the occasion of their 50th and 25th wedding anniversaries respectively. The motion was seconded by Dr. Taylor and carried.

Dr. Heinrichs discussed his report on Early Periodic

Screening Examinations for the Council's information. Dr. Heinrichs moved that the report on Early Periodic Screening Examinations be adopted by the Council with minor changes as outlined. The motion was seconded by Dr. Reaney and carried. Dr. Heinrichs discussed the memorandum of agreement between the South Dakota State Medical Association and the South Dakota Department of Social Services. Dr. Heinrichs moved that the Council recommend negotiation of an agreement with the South Dakota Department of Social Services as outlined including the cost proposal and submit this to the House of Delegates for final action. The motion was seconded by Dr. Reaney and carried.

Mr. Johnson briefly reported on the building progress for the new Association headquarters.

Dr. Sattler briefly reported on the South Dakota Public Health Trust fund for the information of the Council.

The Council considered physicians' names to be submitted to the Governor for appointment to the South Dakota Board of Medical and Osteopathic Examiners inasmuch as Dr. Sattler requested that his name not be submitted for consideration. Dr. Sattler moved that the Council submit the name of W. A. Arneson, M.D. to the Governor for his consideration along with the names of G. R. Bartron, M.D., first choice, and Anton Petres, M.D., third choice. The motion was seconded by Dr. Heinrichs and carried.

Dr. Jones reported briefly concerning activities of the Medical School. He stated that to date 28 medical students at the University of South Dakota Medical School have been transferred for their final two years and 36 students have not yet been transferred. He also reported that a preliminary inspection of the Medical School was made.

The Council considered Walter Gysin, M.D., Howard Wold, M.D. and Peter Steiner, M.D. for honorary life membership in the State Medical Association. Dr. Heinrichs moved that the Council accept Walter Gysin, M.D., Watertown, for honorary life membership in the State Association. The motion was seconded by Dr. Taylor and carried. Dr. Belatti moved that the Council accept Howard Wold, M.D., Madison, for honorary life membership in the State Association. The motion was seconded by Dr. Reding and carried. Dr. Van Demark moved that the Council accept Peter Steiner, M.D., Sioux Falls, as an honorary life member in the State Association. The motion was seconded by Dr. Swanson and carried.

Mr. Neil Sutherland discussed the unified membership proposal of the American Medical Association. He stated that approximately 45,000 physicians throughout the United States are members of their State Associations but are not members of the American Medical Association. Dr. Sattler moved that the unified membership proposal receive adequate study and evaluation in connection with the budget study that will be forthcoming. The motion was seconded by Dr. Swanson and carried.

Mr. Johnson reviewed the annual meeting schedule of events and announced that a special seminar on PSRO will be held on Thursday afternoon, May 30, at 2:00 p.m. in Aberdeen.

Dr. J. A. Muggly reported on the activities of the Executive Committee of the South Dakota Foundation for Medical Care. He requested each district medical society to submit one name for each fifty physicians in the district to serve on the Board of Directors of the Foundation, and that these names be submitted to the executive office prior to the annual meeting so they may be considered for appointment at that time. Dr. Muggly discussed Bylaw changes which are necessary in order to conform to the PSRO Law. Dr. Sattler moved that Dr. Muggly be authorized by the Council to make the required Bylaw changes to bring the Foundation in conformity with the PSRO Law. The motion was seconded by Dr. Heinrichs and carried.

Dr. Taylor moved that a request be submitted for a planning grant for PSRO. The motion was seconded by Dr. Aspaas and carried. Dr. Heinrichs moved that the Council urge all delegates to attend the workshop on PSRO to be held on Thursday, May 30, in connection with the annual meeting. The motion was seconded by Dr. Reaney and carried.

Mr. Johnson discussed a reception to be held during the AMA meeting in June for Mr. Harold Brunn who will be installed as the president of AAMSE, by the North Central states. Dr. Taylor moved that the South Dakota State Medical Association participate in this reception for Mr. Brunn. The motion was seconded by Dr. Quinn and carried.

The Council considered a request to submit the names of three lay persons to the Governor who may be appointed to serve on the South Dakota Board of Basic Science Examiners. Dr. Jones moved that the Council submit the names of Raymond Lynn, Ph. D., first choice, Otto Neuhaus, Ph. D., second choice, and Joseph Welty, Ph. D., third choice, to the Governor for his consideration. The motion was seconded by Dr. Reaney and carried.

The Council discussed information received from the American Medical Association concerning direct membership in the AMA by interns and residents. Dr. Begley moved that the South Dakota State Medical Association retain status quo on intern and resident membership in the American Medical Association. The motion was seconded by Dr. Reaney and carried.

Mr. Johnson reported that information has been received from the American Medical Association concerning openings on AMA Councils and Committees. The Council directed the executive office to send a list of openings on Councils and Committees to each district for consideration, and the district submit names to the Council for consideration at the next meeting.

Mr. Johnson read a letter addressed to Dr. Sattler as president of the Association from Governor Kneip regarding litter control in the state of South Dakota for the Council's information.

Mr. Johnson read a letter from the State Health Department concerning a complaint filed with that Department. Dr. Heinrichs moved that Dr. Lewis and Dr. Nemer investigate this complaint which occurred in their districts and report to the Council at their next meeting. The motion was seconded by Dr. Belatti and carried.

The meeting adjourned at 12:00 noon.

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**September 16-27, 1974**

**University of Nebraska Medical Center  
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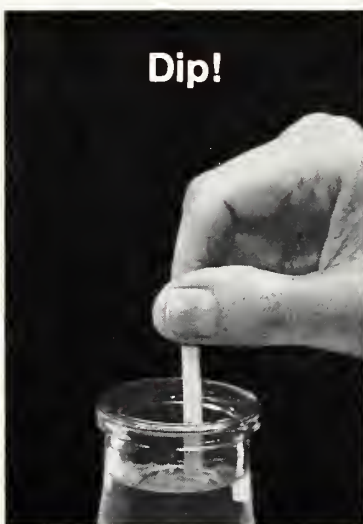
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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## MODERN ASPECTS OF RABIES PROPHYLAXIS\*

**Lawrence Carey, M.D.\*\***  
*Discussor*

**John F. Barlow, M.D., FCAP\*\*\***  
*Pathologist-Editor*

DR. CAREY: Today I hope to discuss some of the modern concepts of both clinical rabies and the prophylaxis of rabies, for it is only recently that significant advances in this disease have occurred. Rabies is one of the few diseases that was well described before Hippocrates. There is an excellent description from Mesopotamia in 2000 B.C. which points out certain facts about both the clinical disease and the transmission of the disease: "If a dog is mad and authorities have brought this to the attention of the owner, and he does not keep it in and it bites a man and causes his death, he shall pay 40 shekles of silver, 15 shekles if a slave."

Until the 19th century, very little was added to this knowledge of rabies. In 1885 Louis Pasteur demonstrated that rabies was caused by an infectious agent. He developed a vaccine to protect against it by active immunization. Since this major advance in the prevention of the disease, two important steps have been made. The first is an understanding of the reservoir of the virus in wild animals and the second is the use of passive immunization against rabies and its use in clinical trials.

What I would like to stress this morning is the prophylaxis of rabies. Rabies is a rare disease in

humans in the United States with an average of only 1-2 cases per year. However, there are about a million animal bite exposures per year in the United States. The problem of whether to immunize a patient who has been bitten, scratched, or otherwise exposed to the secretions of animals which are possibly infected with rabies virus is a perplexing one to all physicians. The prophylactic treatment is not ideal, but, as I hope to review with you shortly, its complications are minor. The decision as to whether to utilize post-exposure prophylaxis must be made immediately, since the longer treatment is postponed, the less likely it is to be effective. I think that in order to make proper therapeutic decisions concerning post-exposure rabies prophylaxis, one must understand both the epidemiology of animal and human rabies, as well as the clinical and experimental basis of the modern modalities of treatment.

### Epidemiology of Rabies

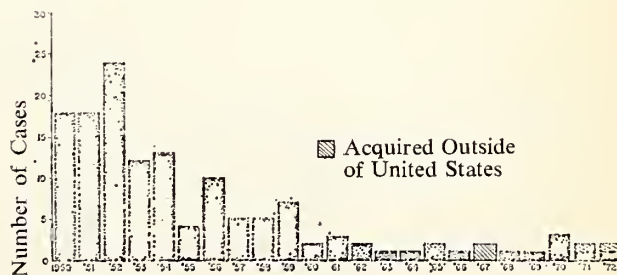
Rabies has decreased from an average of 22 cases per year in 1946 to 1 or 2 cases per year since 1960. In fact, several of the cases of rabies in the last 10 years have been acquired outside of the continental United States in countries where rabies in the dog population is much more common (Fig. 1).

\*Presented to Medical and Dental Staff at Sioux Valley Hospital Symposium on Rabies, Saturday, November 17, 1973.

\*\*Epidemic Intelligence Officer, Viral Diseases Division, Bureau of Epidemiology, Center for Disease Control, 1600 Clifton Road, Atlanta, Georgia 30333; Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, Atlanta, Georgia 30333.

\*\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital, Professor of Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.



**Figure 1.**  
**Rabies, Reported Human Cases, 1950-1972**

This striking decrease in clinical rabies is probably due to the concomitant decrease in rabies in domestic animals in this country. In 1946 there were more than 8,000 reported cases of rabies in dogs. In

1972 there were just 232 reported cases (Table I). Bites by dogs and cats, however, still are responsible for most of the prophylactic treatment for rabies in the United States.

Table I  
Incidence of Rabies in the United States by Type of Animal  
1953-1972\*

Year	Dogs	Cats	Farm Animals	Foxes	Skunks	Bats	Other Animals	Man	Total
1953	5,688	538	1,118	1,033	319	8	119	14	8,837
1954	4,083	462	1,032	1,028	547	4	118	8	7,282
1955	2,657	343	924	1,223	580	14	98	5	5,844
1956	2,592	371	794	1,281	631	41	126	10	5,846
1957	1,758	382	714	1,021	775	31	115	6	4,802
1958	1,643	353	737	845	1,005	68	157	6	4,814
1959	1,119	292	751	920	789	80	126	6	4,083
1960	697	277	645	915	725	88	108	2	3,457
1961	594	217	482	614	1,254	186	120	3	3,470
1962	565	232	614	594	1,449	157	114	2	3,727
1963	573	217	531	622	1,462	303	224	1	3,933
1964	409	220	594	1,061	1,909	352	238	1	4,784
1965	412	289	625	1,038	1,582	484	153	1	4,584
1966	412	252	587	864	1,522	377	183	1	4,198
1967	412	293	691	979	1,568	414	250	2	4,609
1968	296	157	457	801	1,400	291	210	1	3,613
1969	256	165	428	888	1,156	321	307	1	3,522
1970	185	135	399	771	1,235	296	252	3**	3,276
1971	235	222	484	677	2,018	465	289	2	4,392
1972	232	184	547	645	2,095	504	218	2	4,427

\*Data prior to 1960 from USDA, ARS. Subsequent data from PHS, NCDC.

\*\*1 patient recovered.

While vaccination of domestic animals is decreasing the amount of animal rabies in this population, a marked epizootic in wild animals in the United States is occurring. This trend in animal rabies is illustrated by the fact that 100% of reported human rabies cases in 1946 were secondary to domestic animal exposure. In the last few years, except for cases from laboratory accidents, virtually all the human rabies cases have stemmed from wildlife exposures. At the present time, 75% of all animal rabies is found in wild animals, and the wild animal reservoir constitutes by far the most common source of infection for man and domestic animals in the United States (Fig. II). The only state that did not report any wildlife animal rabies in 1972 was Hawaii.

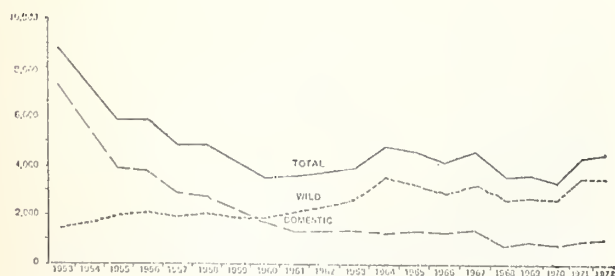


Figure II.

Cases of Rabies in Wild and Domestic Animals

In evaluating a patient for post-exposure prophylaxis, one must take into consideration several factors. One is by what animal was the patient exposed? Secondly, what is the regional distribution of animal rabies cases? Thirdly, what is the nature of the exposure?

Local surveillance of rabies in animals is an integral part of the evaluation of post-exposure rabies prophylaxis. The distribution of animal rabies in the continental United States is shown in Figure III. As one can see, while all states report animal

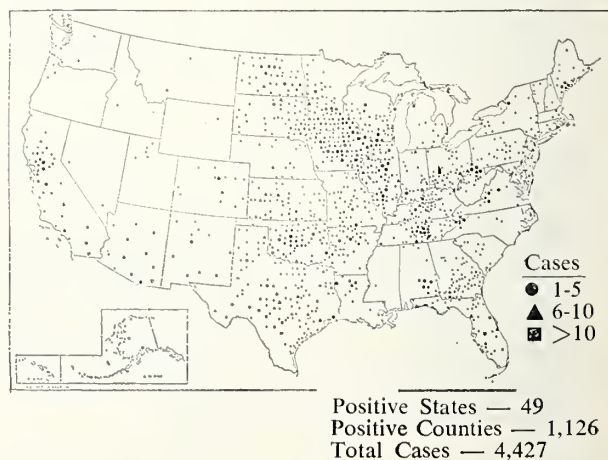


Figure III.

Counties Reporting Animal Rabies—1972



rabies, the greatest concentration is to the east of the Mississippi River. The distribution seen in Figures IV-VI illustrating skunk, cattle, and dog rabies, respectively, closely parallel the overall pattern seen in Figure III. Raccoon rabies is a good example of the expanding nature of the rabies epizootic in wildlife. It is essentially a southeastern disease and each year in the State of Georgia, we find raccoon rabies creeping further and further north.

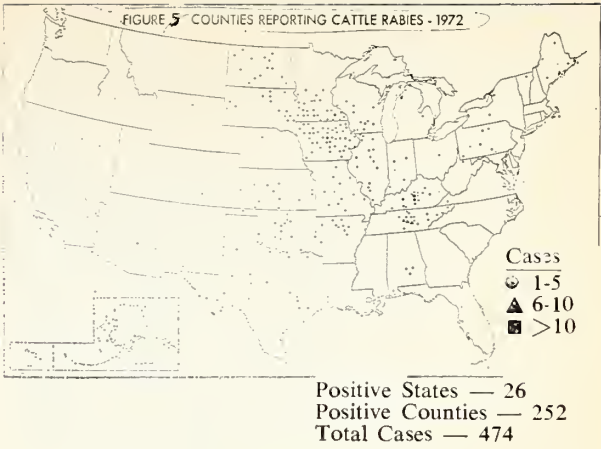


Figure V.  
Counties Reporting Cattle Rabies—1972

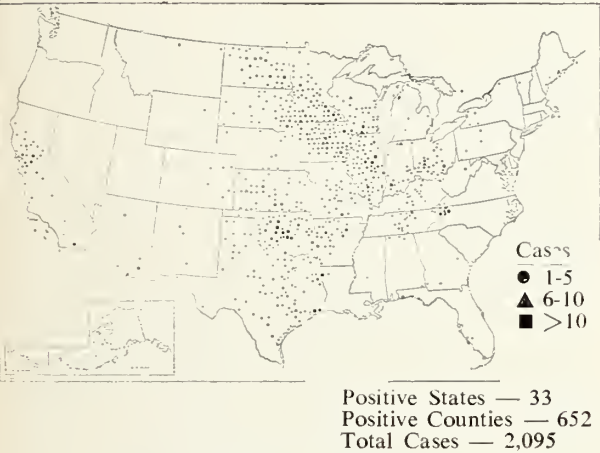


Figure IV.  
Counties Reporting Skunk Rabies—1972

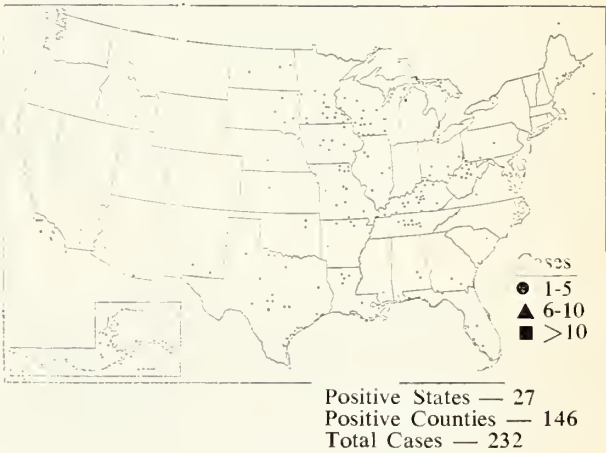


Figure VI.  
Counties Reporting Dog Rabies—1972

This marked increase in wildlife rabies, particularly in skunks, foxes, bats, and raccoons on the national level is also mirrored in the State of South Dakota. Table II is compiled from the zoonosis surveillance which the Center for Disease Control conducts with cooperation of the state and territorial epidemiologists. As one can see, wildlife rabies is

2½ times more common than domestic rabies in South Dakota. The skunk is by far the most prevalent reservoir of the virus and probably the main source of spread to cattle, cats, and dogs in the domestic population. The skunk has also been responsible for the majority of the recent human clinical cases of rabies in South Dakota.

Table II  
Animal Rabies — South Dakota  
1969-1973

Year	Dogs	Cats	Cattle	Horses	Other	Total Domestic	Skunks	Bats	Raccoons	Foxes	Other	Total Wildlife	Total
1968	—	10	24	1	6	41	89	1	1	—	—	91	132
1969	5	8	9	—	—	22	28	1	2	—	—	31	53
1970	—	10	18	1	2	31	84	3	—	—	—	87	119
1971	6	17	28	—	—	51	108	4	2	2	—	116	167
1972	4	16	26	—	—	46	81	4	—	—	1	86	132
Jan-July 1973	2	6	19	2	1	30	42	1	—	—	1	44	73
TOTAL	17	67	124	4	9	221	432	14	5	2	2	555	676

## Post-Exposure Prophylaxis

Pasteur knew that rabies has a prolonged incubation period which, while usually averaging 1 to 2 months, ranges from a few days to 1 year. This long period of incubation, therefore, seemed to be ideal for establishing resistance by active immunization even after the bite was inflicted. This has been the rationale for post-exposure prophylactic rabies treatment. Any treatment for a disease with as great emotional impact as rabies was welcomed with enthusiasm by the lay press and by physicians alike. Unfortunately, the great clinical demand put on Pasteur after the "successful" treatment of Joseph Meister inhibited further experimentation designed to tell how effective the vaccine was. Figures on attack rates for rabies in individuals who have been bitten and left untreated are hard to come by. Even harder to find are well-controlled studies concerning vaccine efficacy. Over the years, however, evidence has accumulated to indicate that treatment with vaccine alone is effective. As I will discuss later in the post-exposure prophylaxis of rabies, the combination of antirabies serum with vaccine is more effective than vaccine alone.

## The Vaccine

In the United States, almost all of the 30,000 patients given post-exposure rabies prophylaxis received duck embryo vaccine (DEV). Prior to 1957, nervous tissue vaccine (NTV) of the Semple type was used in this country. The reason for switching from NTV to DEV was two-fold.

1. DEV was just as potent as NTV although both are relatively low potency vaccines when compared with the newer tissue culture and suckling mouse brain vaccines currently being developed.

2. DEV is a much safer vaccine than NTV.

Almost 14% of the people who receive nervous tissue vaccine develop EEG changes. The neuro-paralytic complications occur in 1 of every 600 vaccinees, with a fatality rate of 10% to 25% of those who developed neurologic problems.<sup>1,2,3</sup> Using this type of vaccine for a disease which is already on the wane even in the 1950s became prohibitive. This is especially true in the United States, where there is a different epidemiology of rabies than in other countries. At this moment DEV is the only commercially available vaccine for rabies prophylaxis available in the United States.

We at CDC have recently reviewed the adverse reactions to DEV. This analysis was done in two ways. The first was a retrospective study of approximately 425,000 people who received an estimated 6 million doses of vaccine. This study was based on

physician reports of adverse reactions to either CDC or Eli Lilly Company, the manufacturer of the vaccine.<sup>4</sup>

In this review, 22 cases of anaphylaxis were reported. This was defined as either laryngeal edema, bronchospasm, or cardiovascular collapse. Five of the 22 demonstrated hypotension. All 22 recovered with either antihistamines or epinephrine alone. Anaphylaxis occurred within the first 3 days of treatment in 21 of the 22 cases. In the other case, anaphylaxis occurred on a booster dose after a primary series of DEV. Three of the 22 who developed anaphylaxis had received a prior avian tissue vaccine such as influenza or yellow fever vaccine. Thus, the risk of anaphylaxis from DEV is low.

Another major group of complications from DEV are neurological reactions. Major reactions were defined as those lasting more than 4 days and occurring within 6 weeks of a course of DEV. Minor phenomena usually occurred before the 10th dose and included headache, paresthesia and malaise. In many of the minor cases serum was also given with vaccine, and the question of whether some of these neurological reactions were manifestations of serum sickness was present. Major complications lasting more than 4 days with objective criteria included transverse myelitis and cranial and peripheral mononeuropathy. Most of these major reactions occurred late in the course of the vaccine, usually on the 13th or 14th day. Most of the patients who manifested one of these complications recovered with the use of steroids or antihistamines. Four reported cases of encephalitis, 2 fatal and 2 non-fatal, were also recorded. In the 2 fatal cases of encephalitis, some question remains as to whether these represent actual clinical rabies rather than a reaction to the vaccine. One of these fatal cases occurred in an 11-year-old girl in Britton, South Dakota, who had received a 14-day course of DEV. On the 16th day, she developed chills, fever, vomiting, and pain in the throat as well as dysphagia. She also developed weakness of her extremities, drooling secretions, and excessive salivation. This syndrome sounds very much like clinical rabies, which I will discuss in greater detail later. The girl went on to develop hemiplegia, papilledema, hypothermia, and apnea and eventually died. The second fatal case was in a 50-year-old farmer who was bitten by a proven rabid dog and developed confusion, paralysis, and respiratory difficulty on the 10th day of treatment with DEV. In both of the above, laboratory studies to rule out the diagnosis of clinical rabies were not performed.

While the major complications from DEV com-



pare favorably with those from most vaccines, minor reactions such as local pain, erythema, and induration occur almost universally in all patients. Table III summarizes the minor reactions to the vaccine. Anyone who has experienced either pre or post exposure immunization will remember the pain, heat, and erythema at the injection site. Systemic reactions to the vaccine are much less common. Eighteen percent had adenopathy with malaise, and myalgias occurred in about 1/3 of the vaccinees.

Table III

Reactions to Duck Embryo Vaccine

Immediate pain at site of injection	100%
Local erythema	47%
local pruritus	13%
Regional adenopathy	18%
Myalgias	27%
Malaise	34%
Anaphylaxis	0.6%

In conclusion, duck embryo vaccine is a safe vaccine that causes major complications in less than 1% of patients and anaphylaxis in 0.5% to 0.9% of people. For comparison, penicillin anaphylaxis runs about 0.4%. Nervous system complications of DEV are approximately 3.1 per 1,000,000 vaccinees, and these complications are usually transient. Only 2 cases of Landry-Guillain-Barre syndrome have been reported with DEV, while more than 200 cases have been reported with nervous tissue vaccine.

Generally, complications stemming from duck embryo vaccine should be treated with antihistamines and without steroids. There are two reasons to withhold steroids, except in life-threatening complications: (1) Steroids will significantly reduce the active antibody response which one is attempting to obtain through duck embryo vaccine (2) There is some evidence in experimental animals to indicate that steroids may enhance the spread of the rabies virus.

### Treatment of Bite Exposures

The question now arises as to what to do for a patient who has been exposed to a bite of a wild carnivorous animal in an area where rabies is known to exist? One of the things that is overlooked the most is that local treatment is important. Proper local therapy to the wound will decrease the clinical incidence of rabies. There are two recommendations for local treatment: 1) washing the local lesion with soap, and 2) using quaternary ammonium compound such as Zephiran. One has to be very careful to wash all the soap away before one applies the Zephiran (benzyl ammonium chloride) since the soap will inactivate the quaternary ammonium compound. In the past, there has been much discussion

as to whether one should suture the bite wound of an animal. We at CDC do not feel there is any harm in suturing the wound if the physician deems the wound requires suturing for other medical reasons.

Figure VII illustrates the Advisory Committee on Immunization Practices' guidelines on post-exposure rabies prophylaxis. A quick perusal of this chart indicates that almost every category recommends the use of both serum and vaccine for post-exposure rabies prophylaxis. What is the rationale for this?

### POST-EXPOSURE ANTIRABIES GUIDE

The following recommendations are only a guide. They should be used in conjunction with knowledge of the animal species involved, circumstances of the bite or other exposure, vaccination status of the animal, and presence of rabies in the region.

Animal and Its Condition		Treatment	
Species	Condition at Time of Attack	Kind of Exposure Bite*	Non-Bite*
Wild	Skunk	S + V <sup>1</sup>	S + V <sup>1</sup>
	Fox		
	Raccoon		
	Bat		
Domestic	Dog	None <sup>2</sup>	None <sup>2</sup>
	Escaped (unknown)	S + V	V <sup>3</sup>
	Cat	S + V <sup>1</sup>	S + V <sup>1</sup>
	Other	Consider individually— See "Rationale of Treatment"	

- \* See text definitions
- V Rabies Vaccine
- S Antirabies Serum
- 1 Discontinue vaccine if fluorescent antibody (FA) tests of animal killed at time of attack are negative
- 2 Begin S + V at first sign of rabies in biting dog or cat during holding period (10 days)
- 3 14 Doses of DEV

Figure VII

Rabies is an unusual illness in that there is no antibody response elicited during the incubation period. Rabies virus is protected either intraneuronally or intramuscularly against the immune system. In the cases of human rabies that have been extensively studied, there is usually no measurable antibody response to the disease during the incubation period. Often, serum neutralizing antibody does not even appear until well into the acute neurological stage of the clinical disease. Presence of serum neutralizing antibody is inversely correlated with the ability to grow the virus from the saliva and thus there is some presumptive evidence to feel that neutralizing antibody may be "protective." Also, treatment failures with the use of vaccine are usually in short incubation disease. For instance, head bites are correlated with a shorter incubation period than ex-

limb bites and are associated with a higher mortality rate. All of these observations seem to indicate that if one could theoretically induce or provide rabies antibodies early in the course of the disease, better survival rates from post-exposure prophylaxis would be obtained. This is further corroborated by the fact that no well-documented case of fatal human rabies has occurred in someone who has had adequate pre-exposure prophylaxis that produced a measurable serum neutralizing antibody.

There has been one "experiment in nature" comparing the efficacy of serum and vaccine to vaccine alone. This occurred in 1954 in Iran,<sup>5</sup> where a number of villagers were bitten by a rabid wolf. Eighteen people suffered head wounds from the rabid wolf. Twelve were given serum and vaccine, and 5 were given vaccine alone. Three of the 5 who got the vaccine alone died. One of the 12 who received both serum and vaccine died. A significant reduction in mortality was reached with the use of the combination of serum and vaccine, that is, passive and active immunization. Thus, serum should be given along with vaccine to all persons bitten by animals in which rabies cannot be excluded and to all exposed by non-bites of animals suspected or proven to be rabid. In summary then, when someone is significantly exposed, whether by bite or other means, by a potentially rabid wild animal in an area where wildlife rabies is endemic, you always treat with serum and vaccine. The dose of passive antibody in equine form is 40 international units per kilogram given half in the wound and half intramuscularly. If passive antibody is given, a decrease in the active antibody response elicited by DEV is produced, and thus a longer course of DEV as well as booster doses are required.

### Questions and Answers

\*DR. ROBERT GIEBINK: What is a non-bite?

DR. COREY: A non-bite exposure is a lick of an open wound or mucosal surface. In these cases, you treat with serum and vaccine if it is from a proven rabid animal. The course of therapy may be given in either of two ways. The patient may receive 1 dose of duck embryo vaccine for 21 days with a booster dose on the 10th and the 20th day later, or it can be given 2 doses per day for 7 days and 1 per day for 7 days for a total of 21 and again booster doses

on the 10th and 20th days after treatment. Both treatment regimens require a total of 23 doses of duck embryo vaccine combined with equine serum. In domestic animals, if there is a bite by a healthy dog or cat, one should confine the animal for 10 days. If there are no signs of rabies, no treatment is required. If the animal becomes ill, it should be sacrificed and examined for rabies by the fluorescent-antibody technique. Now there are differences between areas. If you are bitten by a domestic animal in New York City and the dog escapes, no treatment is required because dog rabies has not been described in New York City in the past 12 years. The situation in South Dakota is different, however. If there is a bite exposure from an escaped animal in which rabies may be suspected, one should treat with serum and vaccine. If it is a non-bite exposure from a wild animal, one still uses serum and vaccine; if it is from a domestic animal that escapes, you can use vaccine alone. Why do we say this? In a way I feel this is sort of a cop-out. We are playing the odds here. As the chance of rabies from a non-bite exposure by a domestic animal is very low and the morbidity from serum sickness is significant, we feel vaccine alone is potentially a better balance between these factors. As you know, the problem with serum and vaccine is, of course, the morbidity they cause. Serum sickness is a common finding after giving equine anti-rabies serum. It occurs in 40% of adults and 16% of children. About 60% of the calls we get at CDC are about patients who on the 7th to 12th day of a course of vaccine and serum develop urticaria, malaise, arthralgias, and fever. A majority of these cases are manifestations of serum sickness from horse serum. The treatment is to give these patients large doses of antihistamines and hospitalize them if necessary and continue therapy if needed. It is usually not the DEV that is causing the reaction, but equine serum. As described earlier, the risk of anaphylaxis late in the course of DEV is remote. If anaphylaxis occurs, it usually is present after the first three doses; and thus, if treatment was initially necessary, DEV should be continued even with these manifestations of serum sickness.

\*\*DR. GUY TAM: What do you do if a patient has a positive skin test to the horse serum?

DR. COREY: I think that problem may be solved by my next topic—human rabies immune globulin.

Human rabies immune globulin (HRIG) is not currently licensed for general use. Some laboratory and clinical experience with this product has been accumulated, however, and hopefully it will be available for limited use sometime during 1974. The

<sup>5</sup>Orthopedic Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

\*\*Family Practitioner, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.



major advantage of this human antirabies serum will be the near elimination of serum sickness from passive immunization with horse rabies antibody. The major disadvantage will be its cost and lack of availability. Therefore, I do not think the use of equine serum is completely over in the foreseeable future. Human antirabies serum is prepared from volunteers who have had pre or post exposure prophylaxis. If one gives HRIG alone, neutralizing antibody first appears 24 hours after injection and peaks at 8 to 9 days and has a half life of 3 weeks. A dose of 15 to 40 international units per kilogram produces a significant titer which we define as greater than 1:5. At 40 or 50 international units per kilogram, one gets more suppression of the active antibody response elicited by DEV. The optimal dose is to provide a protective early passive antibody response but yet allow duck embryo vaccine to elicit an active antibody response later in the course of therapy. To date, this dose seems to be about 20

international units per kilogram.

Table IV illustrates the suppressive effect of HRIG on the active antibody response from DEV. The table demonstrates the antibody response 60 to 70 days after various dosage regimens of HRIG and DEV. As the half life of HRIG is about 3 weeks, 100% of people will have less than a 1:5 titer at 60 to 70 days from just HRIG alone. Interestingly enough, 16 doses of duck embryo vaccine alone produce a titer of greater than 1:5 in 60 days in only 92% of people. This is a manifestation of the rather low antigenicity of duck embryo vaccine. However, if one gives 23 doses of this vaccine, all patients develop a significant titer in 60 days. If one gives 16 doses of DEV with 15 or 40 international units per kilogram of HRIG, then 40% and 46% of patients, respectively, will not have a significant titer in 63 to 70 days. In order to provide adequate long range protection, 23 doses of duck embryo vaccine must be given when HRIG is used.<sup>6</sup>

Table IV  
Percentage of Persons in Each Group  
with Inadequate Response\*

Treatment	# in Group	# Tested	# with <1:5 Titer	% with <1:5 Titer
HRIG - 10 IU/kg	11	8	8	100
HRIG - 15 IU/kg	5	3	3	100
HRIG - 40 IU/kg	13	8	8	100
16 Doses DEV	18	13	1	8
23 Doses DEV	17	14	0	0
16 Doses DEV + HRIG - 15 IU/kg	12	10	4	40
16 Doses DEV + HRIG - 40 IU/kg	13	13	6	46
23 Doses DEV + HRIG - 15 IU/kg	12	12	1	8
23 Doses DEV + HRIG - 40 IU/kg	12	12	1	8

\*Titer less than 5 at 63 to 70 days  
DEV — Duck embryo vaccine  
HRIG — Human rabies immune globulin

\*DR. D. G. ORTMEIER: Unless you are bitten on the head and neck according to your graph, wouldn't it be wiser just to give the 23 doses of DEV since bites on the arm or leg are usually long incubation cases?

DR. COREY: Of course, if you are bitten on the head and neck, there may well be a short incubation period, and in these short incubation cases DEV will not afford early protection. In bites other than the head and neck, it is always difficult to predict the incubation of rabies. There are descriptions in the literature of short incubation cases (10 days) of rabies in extremity bites. We are talking about statistics. While it is true that rabies from an arm bite or leg bite will usually have a longer incubation than a facial wound, one cannot predict the incubation of rabies in an individual bite. This is because

you do not know what the inoculation size of rabies virus was. I think, under these circumstances, one should give the optimal therapy, which is serum and vaccine, so that you can have both early passive protection and late active antibody protection.

DR. D. G. ORTMEIER: I still note on one of your charts that 60 days after 23 doses of DEV everyone has a titer and what we see around here are mostly extremity bites. I question whether it's not safe just to give the vaccine alone without the serum because of the complications of the serum therapy. Do you agree?

DR. COREY: Well, no. As I stated earlier one cannot predict the incubation period from the site of exposure and studies indicate the early passive antibody protection is helpful in reducing mortality.

DR. ROBERT GIEBINK: Is there any morbidity from the human antirabies serum?

\*Family Practitioner, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.

DR. COREY: Other than rare idiosyncratic reactions—no.

\*MR. BEN DIAMOND: I might add that we do have equine rabies antiserum available at the state lab at no charge. We also keep DEV in supply in case of emergency shortage of supply elsewhere.

\*\*DR. LARRY SITTNER: Now as I understand it, this means that if there is any bite by a wildlife animal in this state, you give serum and vaccine.

DR. COREY: That's correct, if it is a carnivorous animal known to be a potential reservoir of rabies. If you have a provoked bite by a domestic animal where rabies is much less common and you have the animal, I think you can wait and quarantine the animal. An unprovoked bite, however, would lead me toward the use of serum and vaccine.

\*\*\*DR. JAMES FELKER: What if you had an animal that is caught after escape having made an unprovoked bite?

DR. COREY: I would like to stress if there is any question, particularly if the animal is acting peculiarly, that it should be sacrificed and the brain studied by fluorescent antibody (FA) technique.

DR. FELKER: What if the FA technique is negative?

DR. COREY: The FA test is a highly reliable test in good hands, and if negative, the likelihood of rabies virus being present in the animal's salivary glands is very remote. If the FA test is negative, I would not treat with post-exposure prophylaxis.

\*\*\*DR. GEORGE SMITH: I do not understand when you sacrifice a dog.

DR. COREY: If the dog is healthy and has an owner and has been vaccinated, particularly if it is a provoked bite, I would think this is a situation in which you could quarantine the animal for 10 days, but if there are any signs of illness in the animal, I would sacrifice the dog. If the dog were a stray dog, I would certainly sacrifice the animal immediately.

DR. FELKER: I want to give you a case. A cat had gotten into a fight with a skunk three weeks prior to biting a lady. Four days after the bite, the cat died. A fluorescent antibody test on the brain of the cat was negative. I was told that the FA test can be nega-

tive and rabies still occur.

MR. DIAMOND: I think that the FA test is a highly reliable test. There are variations because of the antibody used, but I think that if the FA test is negative, you do not have to worry.

DR. COREY: There are some special problems in prophylaxis of rabies that deserve mention. One of them is what to do if you are dealing with a patient who has a well-known avian allergy. Is there a vaccine other than duck embryo vaccine available for post-exposure prophylaxis? Nervous tissue vaccine of the Semple type is no longer available for use in the United States. There are a couple of vaccines which are made in tissue cultures which are still in the investigational stage which can be made available under special circumstances through the Center for Disease Control. The other alternative is desensitization to duck embryo vaccine which has been described in the literature.

One other question is, what if one has a major reaction to duck embryo vaccine? Should one stop treatment? In this instance, it is often helpful to know what type of antibody response has been elicited by the prior doses of duck embryo vaccine. There is a test called the rapid fluorescent focus inhibition test (RFFIT), which can rapidly measure a patient's serum antibody. Essentially, one takes the patient's serum and makes serial dilutions with a known amount of rabies virus. Fluorescent antibody is then added, and the preparation is then examined under the fluorescent microscope. If there is no serum neutralizing antibody to rabies, one will see fluorescence. If antibody is present, a reduction of the fluorescence will be elicited. This test can be done in 24 hours and is often helpful in deciding whether more injections of DEV are necessary for adequate protection.

### Pre-Exposure Prophylaxis

Pre-exposure prophylaxis is generally reserved for persons whose vocation puts them at "high risk" of exposure to rabies such as veterinarians or animal handlers. There are two dosage schedules for pre-exposure prophylaxis. The methods consist of giving one dose of 1 ml of duck embryo vaccine subcutaneously a week for 3 weeks and then a booster at 3 months or two injections of DEV one month apart followed by a third dose 6 to 7 months after the second dose. These regimens can be expected to produce neutralizing antibody in 80% to 90% of vaccinees one month after the last dose. Everyone having pre-exposure prophylaxis should have a serum neutralizing titer sent to their respective state

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lab 3 to 4 weeks after the last injection. If a patient who has received pre-exposure prophylaxis gets bitten by a rabid animal, you treat him differently. Five doses of DEV plus a booster dose at 20 days is all that is needed to get a good anamnestic response. This is also true of people who have had DEV or NTV for post-exposure prophylaxis in the past.

### Clinical Disease

The incidence of clinical rabies following significant exposure to proven rabid animals is variable. The probability of developing clinical rabies varies with the site of exposure. Persons exposed with leg bites have approximately a 3% to 10% chance of developing clinical rabies; those with bites on the arm, 15% to 40%; and those with bites on the head, 50% to 80%. The incubation period is usually approximately 30 days, but may range from a few days to up to one year. Incubation periods tend to be short with head bites and shorter in children than in adults. There is evidence which shows that post-exposure prophylaxis is more effective in preventing long incubation rabies than short incubation rabies.

The diagnosis of rabies antemortem is really very difficult. It is essentially a clinical diagnosis based mainly on the history and physical exam and hence on the clinician's index of suspicion. The clinical course can be put into five stages. First is the incubation period; second, the prodromal stage; third, the acute neurological phase; fourth, the coma and complication stage; and fifth, the recovery stage. While in the past rabies was felt to be invariably fatal, there is now one well-documented case of recovery, as well as a number of anecdotal cases. The prodromal stage is very non-specific. It starts like many other diseases with malaise, anorexia, fatigue, headache, and fever. Fever is a very important symptom in rabies in distinguishing it from pseudorabies and rabies hysteria. Fifty percent of people who have clinical rabies have neuritic pain or paresthesia at the site of exposure. One can also see depression, anxiety, and irritability in this prodromal phase. The prodrome passes into the acute neurological phase 2 to 10 days after beginning. This consists of hyperactivity, disorientation, hallucinations, seizures, change of behavior, and nuchal rigidity. This stage is often termed "furious rabies." What is characteristic of the disease is that these changes are intermittent in nature. The patient may develop episodes of fury and abnormal behavior lasting 1 to 5 minutes, but in between he is lucid. Hysterical patients do not usually have lucid periods. About half of the patients with clinical rabies develop classic hydrophobia. This is a sign that is characterized by the fact that these

patients are thirsty, but trying to drink precipitates pharyngeal spasm. Paralysis may also occur as in a Landry-Guillian-Barre syndrome, or the patient may have hemiplegia on the side of the bite. Twenty percent of people may not demonstrate any hyperactivity and may develop paralysis and lapse into a coma, demonstrating what the veterinarians call in animals "dumb" rabies. After the acute neurological phase, the patient lapses into the coma stage, which is usually accompanied by respiratory arrest and death. It is our feeling that with proper therapy and with particular attention to respiratory and other complications, the patient can be tided over both the acute, neurological and coma stage until the body has had a chance to elicit an active antibody response. The one case of a 6-year-old boy who did recover resulted in complete neurologic remission. Thus, intensive medical management may in some cases be able to avert death from rabies. The complications of the disease are protean and include the following: a) Neurologic: seizures, cerebral edema, internal hydrocephalus, inappropriate secretion of antidiuretic hormone, diabetes insipidus; b) Pulmonary; hypoxia, respiratory arrest, secondary bacterial pneumonia, aspiration pneumonitis, respiratory distress syndrome; c) Cardiac: cardiac arrhythmias, congestive heart failure, hypotension; d) Hypothermia and hyperpyrexia. Management of this type of patient is difficult, but if properly managed and if hypoxia is avoided, the patient may recover.

DR. FELKER: Do you have to give prophylaxis to the people who are involved in the care of rabies?

DR. COREY: Human-to-human transmission of rabies has not been recently described, but case reports do exist in the early literature (1900s). I will modify this to this extent. There were two nurses, one of whom gave our recent rabies patient mouth-to-mouth resuscitation and the other suctioned the rabid patient with an open wound and did not take proper wound precautions. We gave both of these nurses serum and vaccine. Routine isolation techniques should prevent human-to-human transmission of rabies.

DR. FELKER: The thing that kills these patients is pneumonia.

DR. COREY: Well, they certainly get pneumonia and also develop an obstructed airway with pharyngeal and laryngeal spasm.

DR. FELKER: Do you use prophylactic tracheostomy?

DR. COREY: Yes.

\*DR. LLOYD SWEENEY: If you can prevent rabies by simple routine isolation, why do you give people working with the virus pre-exposure vaccine and expose them to these complications? Can't they just wear gloves or something?

DR. COREY: Well, the complications of DEV alone in pre-exposure prophylaxis are very low, with anaphylaxis being the only serious one. The injections are painful, but if one takes a good history and rules out a history of avian allergy, I think one has very little to worry about as far as routine pre-exposure prophylaxis goes.

\*\*DR. JERRY BLAKE: What kind of vaccine do they give to animals?

MR. DIAMOND: There are two types, high-passage and low-passage egg vaccines. These are live virus vaccines which are quite effective, and rabies from a domestic animal immunized by these vaccines is extraordinarily rare. These vaccines do have to be given every year or every two years, depending on the type of vaccine.

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\*\*Intern, Sioux Valley Hospital.

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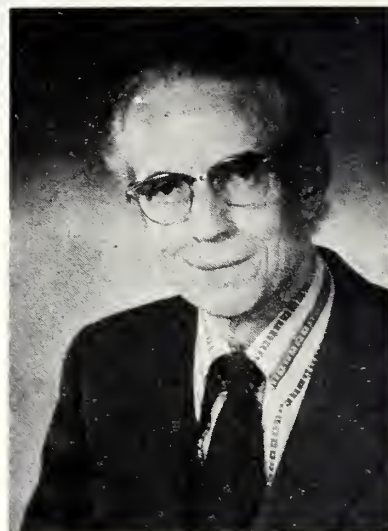

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# P R E S I D E N T ' S P A G E



The House of Delegates of the South Dakota State Medical Association on June 2, 1974, voted by majority to increase the annual dues by fifty dollars. At the first meeting of the Council the report of the Budget and Audit Committee was returned without acceptance because of the underfinancing aspects of the original report. The committee accordingly revised its report which then received majority approval at the second House of Delegates meeting. The basis of the second report was fundamentally due to the present inflation, resulting in spiraling costs including postage, social security, employees wages, mileage, telephone, legal fees and office supplies. The State Association previously agreed to financially support the Huron district in their hospital legal problems; this will not be inexpensive as indicated by preliminary reports. The likely loss of income from removal of the facilities of the State Board of Medical and Osteopathic Examiners is also stated in this second report of the Budget and Audit Committee (which is being published and should be reviewed in detail). Not mentioned in the report are the serious challenges the Association will meet this year with the proposed Kennedy-Mills, PSRO and central health authority measures.

This increase will cost each member of the South Dakota State Medical Association less than fourteen cents a day of income tax deductible expense.

Robert E. Van Demark, M.D.  
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# MEDICAL ASSOCIATION

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The following physicians have completed continuing education requirements to retain active membership in the American Academy of Family Physicians: **E. J. Batt, M.D.**, Sisseton; **T. A. Angelos, M.D.**, Canton; **L. W. Holland, M.D.**, Chamberlain; **E. A. Schabauer, M.D.** and **B. R. Skogmo, M.D.**, Mitchell; **David Patterson, M.D.**, Redfield; **Dennis Epp, M.D.**, Freeman; **R. G. Nemer, M.D.**, Gregory; **B. O. Lindbloom, M.D.**, **R. C. Jahraus, M.D.** and **C. L. Swanson, M.D.**, Pierre; **T. R. Jacobson, M.D.**, Hot Springs; **E C. Smart, M.D.**, Belle Fourche; **Layne Carson, M.D.**, Lead; and **B. C. Lushbough, M.D.** and **C. H. Wait, M.D.**, Brookings.

\* \* \* \*

**A. J. Horthy, M.D.**, 70, died at his home in Kennebec. He received his medical training in Hungary, interned at Sioux Valley Hospital in Sioux Falls and established a family practice in Kennebec in 1953. Dr. Horthy was a member of the district and State Medical Association, the American Medical Association and various community organizations. He is survived by his widow, a daughter and one grandson.

**R. E. Van Demark, M. D.**, Sioux Falls, addressed the Pierre District Medical Society on the subject of "New Developments in Joint Replacement."

\* \* \* \*

The South Dakota State Radiologic Technicians held their state convention in Sioux Falls in April. **Martin Petereit, M.D.**, Sioux Falls, spoke on "Important and Interesting Manifestations of Operative Cholangiography."

\* \* \* \*

South Dakota physicians who have received the 1972 American Medical Association Physicians Recognition Award are **L. H. Amundson, M.D.**, **Edward Daw, M.D.**, **J. B. Gregg, M.D.**, **Richard Jaqua, M.D.**, **Dagfinn Lie, M.D.**, **M. G. Mutch, M.D.**, **Priscilla Swanson, M.D.**, **Guy Tam, M.D.** and **R. E. Van Demark, M.D.**, Sioux Falls; **Robert K. Johnson, M.D.**, **Francis Kwan, M.D.**, and **Nathaniel Whitney, M.D.**, Rapid City; **Clifford Binder, M.D.**, and **L. W. Holland, M.D.**, Chamberlain; **Kenyon Broadhurst, M.D.**, Aberdeen; **James Collins, M.D.**, Hoven; **James L. Reagan, M.D.**, Madison, **C. S. Roberts, M.D.**, Brookings, and **B. O. Lindbloom, M.D.**, Pierre.

\* \* \* \*

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MEDICAL SCHOOL  
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IS NEEDED**

**John C. Hagin, M.D.**, Miller died at age 79. Dr. Hagin graduated from the Cincinnati Medical School, practiced in Humboldt and Crooks before establishing his practice in Miller in 1925 where he practiced until his retirement several years ago. He was a member of the Masonic Lodge, the district and State Medical Association and the American Academy of Family Physicians. Dr. Hagin is survived by his widow and two grandsons.

**Loren H. Amundson, M.D.**, Sioux Falls, has been named professor and chairman, Department of Community and Family Medicine of the newly formed four year medical school at the University of South Dakota. Dr. Amundson is a native of Colton, South Dakota. He attended the University of South Dakota Medical School and received his M.D. degree from Wisconsin University in 1956. He interned at Charles T. Miller Hospital, St. Paul, Minnesota, and practiced at the Donahoe Clinic in Sioux Falls prior to his appointment.

\* \* \* \*

Members of the Pierre Hospital Auxiliary heard **R. S. Westaby, M.D.**, assistant director of the Department of Health in South Dakota, speak on the implementation of the Professional Standards Review Organization in the state.

\* \* \* \*

Among the 750 physicians attending the Annual Spring Refresher Course of the Minnesota Academy of Family Physicians held in Bloomington, Minnesota, were **Peter Lakstigala, M.D.**, Sioux Falls, and **A. R. Scheffel, M.D.** and **M. E. Fahrenwald, M.D.**, Redfield.

\* \* \* \*

**David Piro, M.D.**, Watertown, is the recipient of the Player of the Year award in South Dakota duplicate bridge play.

\* \* \* \*

New officers for the Yankton District Medical Society are **David Holzwarth, M.D.**, President, Yankton; **G. M. Jameson, M.D.**, Vice President, Yankton; **Gordon Held, M.D.**, Secretary, Yankton; and **Harold J. Fletcher, M.D.**, Treasurer, Vermillion.

\* \* \* \*

**J. D. Alway, M.D.**, a long time Aberdeen physician died at age 78 in Sun City, Arizona. Dr. Alway attended the University of South Dakota and received his M.D. degree from Rush Medical School in 1923. He took additional training in EENT and established his office in Aberdeen in 1925 where he practiced until his retirement in 1963. He was a member of the Aberdeen District Medical Society, the South Dakota State Medical Association and the American Medical Association and was granted honorary life membership in the State Medical Association in 1963. Dr. Alway served on the Council of the State Medical Association and on the Board of Basic Science Examiners as well as being involved in various community projects.

The Rapid City Medical Center announced the appointment of **Patrick McGuigan, M.D.** to the department of surgery. Dr. McGuigan received his M.D. degree from the University of Illinois College of Medicine and completed a four year general surgery residency at the U. S. Naval Hospital in Great Lakes, Illinois. He is a diplomat of the American Board of Surgery and a fellow of the American College of Surgeons.

\* \* \* \*

The community of Wessington Springs honored **Roscoe Dean, M.D.** with an "Appreciation Day" for the many years of service which he has given to that area.

\* \* \* \*

**Henry E. Davidson, M.D.**, died on April 16 in the Veterans Administration Hospital in Omaha following an illness. Dr. Davidson practiced in Lead from 1935 to 1959 when he entered a psychiatry residency program in Omaha. He practiced in Sioux Falls until 1967 and then moved to Fort Meade where he practiced until his illness in January. Dr. Davidson is survived by his widow, a son, Henry Jr.; two daughters, Jean and Mrs. Ann Welch; and two grandchildren.

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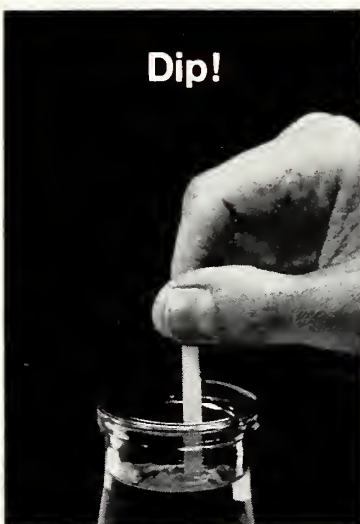
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orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful



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two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

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For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or over-sedation.


**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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# Transactions Of The

## South Dakota Medical Association

### Ninety-Third Annual Meeting

#### May 31, June 1, 2, 1974

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#### REPORT OF THE BUDGET AND AUDIT COMMITTEE

The Budget and Audit Committee met at 3:30 p.m., June 1, 1974. Present were Doctors J. F. Barlow, A. P. Reding, R. E. Shaskey, T. H. Sattler, R. E. Van Demark and G. E. Tracy.

The Committee reviewed the matter of mandatory unified AMA and State Association dues and determined that no recommendation should be made at this time.

The Committee reviewed the CPA audit of the Association accounts prepared by the firm, Broeker Hendrickson & Company. Dr. Shaskey moved that the audit be accepted. The motion was seconded and carried.

The Committee noted that the Association sold the

land and the building at 711 North Lake Avenue, Sioux Falls, to South Dakota Blue Shield for \$275,000. The existing mortgage of \$72,000 has been paid in full. The estimated cost of the new headquarters building will be approximately \$109,000. The balance will be invested at the highest interest rates available and will provide funds for the operation, maintenance, and taxes on the new structure.

The Committee, as directed by the Council, carefully reviewed the proposed budget as prepared last November and which is included in the Delegate's Handbook. Unforeseen developments and inflationary trends have made it obvious that the following budget items should be revised as follows:

Social Security increase	\$500
Legal & Audit increase	\$1,000
Telephone (loss of wats) increase	\$500
Office Supplies increase	\$1,000
Physician Travel increase	\$1,000
Postage increase	\$1,000
Staff Travel increase	\$1,000
Insurance increase	\$350
Employee Relations increase	\$300

A total increase of \$6,650. The Budget and Audit Committee discussed the possible employment of an additional staff person to help absorb the increased work load of the Association headquarter's office. A minimum of \$6,000 would be required to fund this person. This figure includes equipment, salary, social security and health insurance.

The Budget and Audit Committee took note of the fact that, depending on the political scene, the Board of Medical and Osteopathic Examiners' office and administrative work may be moved to Pierre under the Department of Consumer Affairs. This development would necessitate the Association absorbing expenses now being shared with the Board such as salary, social security, rent and telephone which amount to approximately \$9,000.

In view of these facts the Budget and Audit Committee recommends that a \$50 dues increase be authorized by the House of Delegates to be effective January 1, 1975, and I move this recommendation be accepted.

Respectfully submitted,  
**BUDGET AND AUDIT COMMITTEE**  
 John F. Barlow, M.D., Chairman  
 A. P. Reding, M.D.  
 R. E. Shaskey, M.D.

#### COUNCIL MEETING MINUTES

7:30 p.m. **Holiday Inn**  
 Thursday, May 30, 1974 **Aberdeen, South Dakota**

The meeting was called to order by Fred Leigh, M.D., Chairman of the Council. Those present for roll call were Drs. T. H. Sattler, R. E. Van Demark, G. E. Tracy, A. P. Reding, R. H. Quinn, Fred Leigh, J. B. Gregg, W. R. Taylor, David Seaman, G. Robert Bartron, Bruce Lushbough, C. L. Swanson, Harvard Lewis, B. J. Begley, Warren Jones, Paul Aspaas, Duane Reaney, J. N. Hamm, R. H. Harris, R. G. Nemer, James Ryan, Eldon Bell and B. C. Gerber. Also in attendance were alternate councilors Drs. Karl Kosse, E. H. Heinrichs and A. J. Barrett. Other guests included James Rud, M.D., George Mangulis, M.D., J. T. Elston, M.D. and Mr. Neil Sutherland, AMA field representative.

Dr. Tracy moved to accept the minutes of the previous meeting as published. The motion was seconded by Dr. Reaney and carried.

There were no Commission reports to be considered.

Mr. Johnson reported that the State Association headquarters office has moved into its new building at 608 West Avenue, North, Sioux Falls.

Dr. Lewis and Dr. Nemer reported to the Council on their investigation concerning a complaint received by the Council at its last meeting pertaining to events which



occurred in the Rosebud and Mitchell District Medical Societies. Dr. Tracy moved that the original letter of complaint and material from Dr. Nemer and Dr. Lewis on their investigation be referred to the Grievance Committee for their review and recommendation. The motion was seconded by Dr. Swanson and carried. The executive office was directed to inform Dr. Hayes at the State Health Department of the Council's action.

The Council reviewed the letter from the Association attorney concerning the Huron court case and the legal fees involved in this case. Dr. Tracy moved to table discussion on this matter until the next Council meeting. The motion was seconded by Dr. Bell and carried.

Dr. Gregg reported on the Indian Health Program for the State of South Dakota for the Council's information.

**REPORT TO THE COUNCIL OF THE S.D. STATE  
MEDICAL ASSOCIATION CONCERNING THE  
INDIAN HEALTH PROGRAM, MAY 30, 1974,  
ABERDEEN, SOUTH DAKOTA**

This afternoon I met with Dr. Ted Herberlin of Aberdeen. He is in charge of the mechanics of the PHS health care program for this area. The following information was received from him.

1) Wagner—There will be two physicians there as of July 1, 1974. One is a civil servant and the other is in the Commissioned Corps. One of these men will be coming from Rosebud because he is interested in ophthalmology and wants to work with Dr. Willcockson.

2) Chamberlain—A woman physician, civil servant, is coming soon.

3) Rosebud—Dr. Charles Allen and two Commissioned Corps officers will be there leaving three vacancies.

4) Pine Ridge—There will be five Commissioned Corps Officers.

5) Rapid City—There will be four Commissioned Corps Officers, but one will be leaving soon.

6) Eagle Butte—There are two physicians there at the present time, but there is some friction between them and there is the possibility that one might leave. On July 10, a group interested in the family practice residency program at the Hennepin County Hospital in Minneapolis is coming to look over the situation as a part of their program. Also a similar group is coming from the University of Kentucky to evaluate the situation for inclusion as a part of their program.

7) Sisseton—There is one civil servant and one contract physician.

8) Flandreau—Well cared for by contract care with Drs. Otey and Klar.

The Indian Health Service Referral Center mentioned in the past as a possibility for Rapid City will probably not see the light of day for at least four years, if at all. The main areas of need at the present time and in the immediate foreseeable future are Rosebud and Eagle Butte. Help from primarily family practitioners in both of these areas would be most helpful. The program in pediatrics at Sisseton manned by the S.D. physicians from Watertown, has been a tremendous help to the P.H.S. and Dr. Herberlin hopes that it can continue. Also, assistance in this area from family practitioners would be most helpful. Dr. Herberlin wants to continue and augment the health care program in otolaryngology and there will be negotiations along this line in the near future. There is to be a meeting concerning the contract health care for the Indian people in about ten days, after which there may be available more information. Dr. Herberlin is to be transferred to Kansas City soon and the Officer in Charge of the Indian Health Care Program for this area is to be transferred to Alaska. It is not known who will be their replacements. Dr. Herberlin has authorized me to quote him concerning these statements.

Respectfully submitted,  
J. B. Gregg, M.D.

Dr. Sattler discussed Association budget items and urged the Council to be concerned with providing sufficient funds for the Association to become involved with health planning activities. Dr. Bartron moved that the Council review the report of the Budget and Audit Committee, when available, and in view of continuing inflation, the Council feels that a \$50 increase in dues is a more practical approach to the problems of the Association. The motion was seconded by Dr. Taylor. Vote: 12 for; 7 against. Motion carried.

Dr. Sattler briefly reported on the South Dakota Public Health Trust. Dr. Sattler moved that the President of the Association appoint a committee to work on this problem with him. The motion was seconded and carried.

The Council considered the letter from the Association attorney concerning an increase in the retainer fee. Dr. Bell moved that this matter be tabled until the next Council meeting. The motion was seconded by Dr. Reaney and carried.

The Council considered the letter from the Board of Hearing Aid Dispensers requesting nominations from the Medical Association for a term on the Board of Hearing Aid Dispensers to be appointed by the Governor. Dr. Gregg moved that Dr. Curtis Groote be recommended for reappointment to the Board of Hearing Aid Dispensers. The motion was seconded by Dr. Lewis and carried.

Dr. Mangulis discussed his thoughts and recommendations concerning the implementation of the Physician Assistants Law. Dr. Bartron reviewed the Physician Assistants Law as passed by the legislature and discussed the employing physician's prerogatives and rights according to this law.

Nominations were opened for appointment to the SoDaPac Board to serve a one year term. Dr. Begley moved that the Council reappoint the following to serve a one year term on the SoDaPac Board: Drs. W. R. Taylor, T. J. Wrage, Howard Wold, R. J. Zakahi, Bernard Lenz, Jack Berry, Bill Church, L. E. Savage, N. R. Whitney, Marion Cosand, James Ryan and L. F. Nelson. The motion was seconded by Dr. Swanson and carried. Dr. Sattler urged the SoDaPac Board to become more interested in local state political activities and to have a closer liaison with the Council by reporting SoDaPac activities to the Council.

Mr. Johnson reported on the meeting with the State Planning Bureau, the State Health Department, the Hospital Association and the Medical School for the Council's information. He reported that another meeting will be held in July and a health symposium called by the Governor will be held in September.

Dr. Sattler discussed the establishment of a Long Range Planning Committee. Dr. Sattler moved that the Association establish a Committee on Long Range Planning appointed by the President and that such committee not supercede the other Commissions, but rather make recommendations to the Council for matters to be considered or referred to the Commissions. The motion was seconded by Dr. Lushbough and carried.

Dr. Begley discussed the mode of electing the AMA Board of Trustees. Dr. Begley moved that the following resolution be introduced to the House of Delegates:

WHEREAS, the AMA at the House of Delegates at the 1973 clinical convention voted to elect members of the Board of Trustees of the AMA by an at-large vote (those receiving greatest number of votes are elected) and,

WHEREAS, the Board of Trustees and the Judicial Council have questioned the validity of this vote,

BE IT RESOLVED, the South Dakota State Medical Association House of Delegates instruct its Delegate to the AMA to strongly support the more democratic method of electing the AMA Board of Trustees by a general at-large ballot.

The motion was seconded by Dr. Sattler and carried.

The Council discussed the breast cancer screening program being carried out by JoAnn Haberman, M.D. of Oklahoma. Dr. Taylor moved that the appropriate person correspond immediately, both verbally and in writing, with Dr. Haberman explaining the problems created due to the lack of communication and due to not presenting this proposed program to the district medical societies, and request that either this program cease or be corrected according to the recommendations of the district medical societies. The motion was seconded by Dr. Lushbough and carried. The Council directed that the executive office request Dr. James Larson to contact Dr. Haberman concerning this problem inasmuch as he initially introduced her to the Commission which considered this proposed program.

Mr. Johnson read a letter addressed to Dr. Fred Leigh, Chairman of the Council, from Dr. H. Russell Brown, Chairman of the State Utilization and Review Committee, for the information of the Council.

Dr. Muggly reported on the Foundation Board of Directors meeting and requested that the districts submit the names of their appointees to the Board at their earliest convenience.

Mr. Johnson read a letter addressed to Dr. Sattler from Dr. Russell Roth congratulating the South Dakota State Medical Association on reaching an all time high in AMA dues-paying members.

Mr. Johnson read a letter from the newly organized South Dakota Association of Physician Associates addressed to the Board of Medical Examiners for the Council's information.

The meeting adjourned at 10:30 p.m.

## SECOND COUNCIL MEETING MINUTES

4:30 p.m.

Sunday, June 2, 1974

Holiday Inn  
Aberdeen, South Dakota

The meeting was called to order by Dr. Fred Leigh, Chairman of the Council.

Those present for roll call were Doctors Van Demark, Tracy, Leigh, Reding, Quinn, Gregg, Sattler, Taylor, Seaman, Bartron, Lushbough, Swanson, Lewis, Begley, Jones, Reaney, Hamm, Harris, Nemer, Ryan, Bell, and student representatives, James Cassat and Larry Weitzenkamp.

Dr. Reding moved to dispense with the reading of the minutes of the previous meeting inasmuch as they will be published. The motion was seconded by Dr. Bell and carried.

Dr. Taylor moved that a unanimous ballot be cast for Dr. Lushbough to serve as Chairman of the Council. The motion was seconded by Dr. Swanson and carried. Dr. Lushbough was seated as Chairman at this time. Dr. Begley presented a gift to Dr. Leigh in appreciation of his services as Chairman during the past years.

Dr. Paul Hohm reviewed the Huron court case for the Council's information.

Dr. Leigh moved that the Council seat Dr. David Buchanan as Councilor to serve the unexpired term of Dr. Leigh who was elected Vice President. The motion was seconded by Dr. Tracy and carried.

The Council considered the request of the law firm of Martens, Goldsmith, May, Porter & Adam to increase the monthly retainer fee as of July 1, 1974, from \$200 monthly to \$250 plus 4% professional services tax. Dr. Bell moved that the Council accept the increase in monthly legal retainer fee to \$250 plus tax. Dr. Seaman seconded the motion and a discussion followed. Dr. Hamm moved that the motion be amended to allow for an increase in the monthly retainer fee of \$250 plus tax until the next Council meeting at which meeting the attorney, Mr. Gerdes, will be asked to appear before the Council and review the necessity for the increase. The motion was seconded by Dr. Quinn and carried. Dr. Begley moved that the motion as

amended be accepted by the Council. The motion was seconded by Dr. Reaney and carried.

The Council considered the estimated increase in legal fees with regard to the Huron court case. Dr. Tracy moved that the Council request the legal counsel to bill the Association for all work done on this case to date and request that the Association's legal counsel cease involvement in this case unless the primary attorneys request their assistance. The motion was seconded by Dr. Bell and carried.

Dr. Tracy moved that the Council accept the report of the Budget and Audit Committee. The motion was seconded by Dr. Leigh and carried.

Mr. Cassat presented a request from SAMA for a \$100 donation to assist two SAMA representatives to attend the AMA annual meeting in Chicago in June. Dr. Bartron moved that the Association donate \$100 to SAMA to help defray the expenses of two students to attend the AMA annual meeting in June. The motion was seconded by Dr. Ryan and carried.

The Council requested that the Commission on Scientific Medicine when planning the annual meeting for next year consider starting the Second House of Delegates in the morning.

The Council reviewed the proposed schedule for Commission, Council and annual meetings to be held during the coming year in Sioux Falls.

### Meeting Dates for Coming Year

September 7, 1974	Fall Commission Meetings
September 28, 1974	Fall Council Meeting
January 11, 1975	Winter Council Meeting
March 22, 1975	Spring Commission Meetings
April 19, 1975	Spring Council Meeting
May 30, 31, June 1	1975 Annual Meeting

Dr. Harris discussed the problem of pharmacies in the Black Hills District utilizing generic drugs and soliciting the approval of physicians in the area to do so. Dr. Tracy moved that this matter be referred to the Commission on Internal Affairs, Communications and Liaison for study and recommendation. The motion was seconded by Dr. Bell and carried. Dr. Jones was directed by the Council to furnish information on this problem to the South Dakota Pharmaceutical Association which will hold its annual meeting next week.

Dr. Harris also discussed the problem created when a chiropractor was named to the Board of Directors of Western Health Systems as a provider member. Dr. Tracy moved that this matter be referred to the appropriate Commission for study and recommendation. The motion was seconded by Dr. Reding and carried. The Council requested that Dr. Harris provide all pertinent material concerning the two above problems to the executive office.

The Council discussed the correct manner in which a report in the Delegate's Handbook can be amended by the Council. It was determined that the report as submitted should be published and that a footnote indicating the amendments made by the Council also be published in such a case.

The meeting adjourned at 5:30 p.m.

## MINUTES OF THE FIRST HOUSE OF DELEGATES MEETING

9:00 a.m.

Friday, May 31, 1974

Holiday Inn  
Aberdeen, South Dakota

The first meeting of the House of Delegates was called to order at 9:00 a.m. at the Holiday Inn, Aberdeen, South Dakota, by J. B. Gregg, M.D., Speaker of the House.

The following physicians were present for roll call: Drs. T. H. Sattler, R. E. Van Demark, G. E. Tracy, A. P. Reding, J. B. Gregg, R. H. Quinn, W. R. Taylor, David Seaman, G. R. Bartron, Bruce Lushbough, C. L. Swanson, Fred Leigh, H. R. Lewis, B. J. Begley, Warren Jones, Paul



Aspaas, Duane Reaney, J. N. Hamm, R. H. Harris, R. G. Nemer, James Ryan, Eldon Bell, B. C. Gerber, G. H. Steele, Irina E. Driver, D. N. Fedt, P. S. Nelson, Werner Klar, Barbara Spears, David Buchanan, Louis Karlen, R. G. Gere, Richard Gunnarson, Denny Ortmeier, James Shaef-fer, Durward Lang, John Billion, T. A. Angelos, Richard Porter, Richard W. Honke, Gordon R. Held, A. J. Javurek, M. G. Langenfeld, W. J. Mattson, A. J. Barrett, R. D. Bloemendaal, M. R. Cosand, E. A. Johnson, and student representatives James Cassat and Larry Weitzenkamp.

Fred Leigh, M.D. moved that the reading of the minutes of the previous meeting be dispensed with inasmuch as they have been published in the SOUTH DAKOTA JOURNAL OF MEDICINE. The motion was seconded by Denny Ortmeier, M.D. and carried.

Dr. Gregg announced the members of the Nominating Committee which had been appointed by the president, Dr. Sattler. They were as follows:

- District #1 G. H. Steele, M.D.
- District #2 Donald Fedt, M.D.
- District #3 R. E. Shaskey, M.D.
- District #4 R. C. Jahraus, M.D.
- District #5 D. J. Buchanan, M.D.
- District #6 R. G. Gere, M.D., Chairman
- District #7 Denny Ortmeier, M.D.
- District #8 Richard Porter, M.D.
- District #9 Joseph Hamm, M.D.
- District #10 M. R. Cosand, M.D.
- District #11 R. R. Lawrence, M.D.
- District #12 E. A. Johnson, M.D.

The following physicians were appointed to the respective Reference Committees by the Speaker of the House, Dr. Gregg: Reference Committee on Credentials, Resolutions and Memorials, and Reports of Officers and Councilors—R. H. Honke, M.D., Chairman, James Shaef-fer, M.D., and Parry Nelson, M.D. Reference Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations—L. W. Karlen, M.D., Chair- man, M. Langenfeld, M.D. and Durward Lang, M.D. Reference Committee on Reports of Commissions on Scien- tific Medicine, Internal Affairs, Communications and Liai- son—David Buchanan, M.D., Chairman, B. J. Begley, M.D., B. C. Gerber, M.D. Reference Committee on Re- ports of Special Committees and Miscellaneous Business— L. H. Amundson, M.D., Chairman, Harvard Lewis, M.D. and R. D. Bloemendaal, M.D.

Dr. Porter moved that the reading of the reports of the President, President-Elect, Vice President, Secretary-Treas- urer, Delegate and Alternate Delegate to the AMA, Execu- tive Secretary, Speaker of the House, Councilor at Large, Chairman of the Council and Councilors be dispensed with inasmuch as they have been published in the Delegates Handbook. The motion was seconded by Dr. Lushbough and carried.

Dr. Gregg then referred the reports, resolutions and amendments to the Bylaws of the Foundation to the various reference committees.

Resolution #1 concerning Emergency Room Training, submitted by the 7th District Medical Society was referred to Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations.

#### RESOLUTION #1

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Seventh District Medical Society  
SUBJECT: Emergency Room Training

In view of present trends of development of Emergency Room training and updating of care;

BE IT RESOLVED that the South Dakota State Medical Association establish or designate a committee or commission to work with the South Dakota State Hospital Association, South Dakota State Hospital As- sociation, South Dakota State Nursing Association, and

the South Dakota State Emergency Medical Council for this purpose.

(Adopted as amended—See Second House of Delegates Meeting)

Resolution #2 concerning the Use of Local Anesthetics in High School Athletes, submitted by the Sports Commit- tee was referred to the Committee on Reports of Com- missions on Scientific Medicine, Internal Affairs, Com- munications and Liaison.

#### RESOLUTION #2

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Sports Committee  
SUBJECT: Use of Local Anesthetics in High School Athletes

WHEREAS, during the 1974 State "B" and State "A" Basketball Tournaments held in Sioux Falls, partici- pating high school athletes had acute ankle injuries injected with local anesthetics, and

WHEREAS, these injections were done by physicians li- censed to practice medicine in the State of South Dakota, and

WHEREAS, this method of treatment of acute injuries is questioned by the medical profession in general, and

WHEREAS, the following statement is contained in the booklet, **Sports and Physical Fitness**, published by the A.M.A. Committee on the Medical Aspects of Sports: There is no place whatever for the use of procaine hydrochloride to abolish pain so that an athlete can participate. Whatever the injury may be, it is almost certain to be made worse. Pain is nature's way of imposing rest, and rest is essential for the normal healing of injury. No one has yet discovered how to make a wound heal faster than nature intends, but there are many ways to delay the process and the injection of procaine is one of them.

The practice has been categorically condemned by every organization and group interested in athletic injuries, including the American Medical Association Committee on the Medical Aspects of Sports.

The pressures on the doctor involved can be great, but he must be firm, and his loneliness at the moment will be rewarded when the heat of battle has subsided and the injured player and his parents thank him for his wisdom.

THEREFORE, BE IT RESOLVED that the South Dakota State Medical Association adopt a policy statement strongly discouraging its member physicians from the use of such treatment methods in the care of athletes in South Dakota at all levels of competition.

(Adopted—See Second House of Delegates Meeting)

Resolution #3, concerning Medical Ethics submitted by the 2nd District Medical Society was referred to the Com- mittee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #3

TO: House of Delegates  
South Dakota State Medical Association  
FROM: 2nd District Medical Society  
SUBJECT: Medical Ethics

WHEREAS, moral and ethical decay is encroaching on our society in general and the medical fraternity in particular, as witnessed by publications in the J.A.M.A. and national news media,

BE IT RESOLVED, that the South Dakota State Medical Association goes on record to declare unethical for its members to be involved in the following activities:

- a.) to be associated with abortion referral agencies that engage in solicitation and kickbacks, and
- b.) to participate in abortions or sterilizations involv- ing patient coercion, and
- c.) to exploit the professional status in order to seduce

patients.  
AND BE IT FURTHER RESOLVED, that proven unethical conduct based on above activities will cause automatic expulsion from the South Dakota State Medical Association.

(Rejected—See Second House of Delegates Meeting)

Resolution #4 concerning Indian Health Care submitted by the Northwest District Medical Society was referred to the Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations.

#### RESOLUTION #4

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Northwest District Medical Society  
SUBJECT: Indian Health Care

BE IT RESOLVED, that the South Dakota State Medical Association encourage active participation of the State and National AMA in the health care of the American Indian and in their future planning for health facilities and delivering of health care.

FURTHER, the South Dakota State Medical Association urges the National AMA to review the present Senate Bill S.2938, "Indian Health Act," and participate in forming it into an effective and meaningful law.

FURTHER, that the South Dakota State Medical Association urge the National AMA and appropriate agencies to explore the possibility of providing a form of health care to the Indian citizen that would allow him to seek his own medical care, regardless of where he should reside and without the requirement of prior authorization.

(Adopted—See Second House of Delegates Meeting)

Resolution #5 concerning the Uniform Insurance Form, submitted by the Northwest District Medical Society was referred to the Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations.

#### RESOLUTION #5

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Northwest District Medical Society  
SUBJECT: Uniform Insurance Form

BE IT RESOLVED that the South Dakota State Medical Association encourages the adoption of a uniform insurance form for all third party payments. That the State Medical Association with the aid of third parties and the Insurance Commission, State of South Dakota, should cooperate in the development of the same.

FURTHER, the South Dakota State Medical Association urges the American Medical Association to do all possible to adopt a national uniform insurance form at the earliest possible date, and by chance, if it should be as efficient and short as our state form, it should replace the same.

(Adopted—See Second House of Delegates Meeting)

Resolution #6, concerning Hospital Admission Certification submitted by the northwest District Medical Society was referred to the Committee on Reports of Commissions on Scientific Medicine, Internal Affairs, Communications and Liaison.

#### RESOLUTION #6

TO: House of Delegates  
FROM: South Dakota State Medical Association  
Northwest District Medical Society  
SUBJECT: Hospital Admission Certification

WHEREAS, the ethnic background, the environmental, hygienic and dietary conditions of the majority of Medicaid and Medicare beneficiaries are so varied and differ much from patients not under these Federal Programs, and

WHEREAS, in our rural areas, some of these patients travel 100 miles for medical care, and

WHEREAS, all of these factors play an important role

in determining the medical treatment prescribed and whether hospital care is necessary, therefore,

BE IT RESOLVED, that the physician in charge be deemed to be the one best qualified to render the best care for each patient, and

BE IT RESOLVED, that the hospital admission not require pre-admission certification, and

BE IT FURTHER RESOLVED, that people not directly connected with the patient's care make no vital decisions regarding hospitalization and treatment.

(Rejected—See Second House of Delegates Meeting)

Resolution #7, concerning PSRO submitted by the Yankton District Medical Society was referred to the Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #7

TO: House of Delegates  
South Dakota State Medical Association  
FROM: Eighth District Medical Society  
SUBJECT: PSRO (Professional Standards Review Organization)

WHEREAS, such review is a duplication of professional review systems already done by medical practitioners, and

WHEREAS, medicine has always stressed continuing education and professional review and will continue to do so, and

WHEREAS, implementation of the congressional concept of PSRO will create yet another overly expensive and cumbersome federal bureau, and

WHEREAS, this unnecessary expense will be ascribed to increasing medical costs in general and will certainly do nothing to decrease medical costs to patients, but will undoubtedly greatly increase these costs, and

WHEREAS, PSRO, by statements from congressional perpetrators of this law and by members of HEW are more interested in cost control, first at the hospital level of patient care, and later into the doctor's office itself, and

WHEREAS, this type of control will further interfere with the patient-physician relationship and the confidentiality thereof, and

WHEREAS, the standards as defined by PSRO will establish norms of procedures and treatments which are not practical in day to day treatments of patients and will, in fact, decrease the quality of medical care and

WHEREAS, in spite of lip service delineating the operation of the PSRO to physicians, it appears the actual rulings and direction will be by nonmedical personnel, therefore

BE IT RESOLVED, that the South Dakota State Medical Association adopt a policy of non-participation in this attempt at interference with the best system for medical care delivery in the world.

BE IT FURTHER RESOLVED, that the members of the South Dakota State Medical Association be encouraged to continue to refuse acceptance of assignments from all third parties,

AND BE IT FURTHER RESOLVED, that the South Dakota Foundation for Medical Care, which has been incorporated and is preparing for implementation of PSRO, be instructed to cease and desist efforts to implement PSRO, and be further instructed to not apply for or accept federal funds for such implementation.

(Rejected—See Second House of Delegates Meeting)

Resolution #8, concerning the Relative Value Study submitted by the 7th District Medical Society was referred to the Committee on Reports of Special Committees and Miscellaneous Business.

#### RESOLUTION #8

TO: House of Delegates  
South Dakota State Medical Association



FROM: 7th District Medical Society  
SUBJECT: Relative Value Study  
WHEREAS, the South Dakota State Medical Association Relative Value Study and Procedure Nomenclature was not intended as a fee schedule, and  
WHEREAS, the Relative Value Study and Procedure Nomenclature has come to be used by third parties as a fee schedule, and  
WHEREAS, such third parties have at their disposal fee profiles,  
BE IT RESOLVED, that the South Dakota State Medical Association Relative Value Study and Procedure Nomenclature be reserved exclusively for members use, and that it not be made available to third parties, and  
BE IT FURTHER RESOLVED, that the South Dakota State Medical Association Relative Value Study and Procedure Nomenclature no longer be used as a negotiating instrument with third parties.

(Rejected—See Second House of Delegates Meeting)

The proposed amendments to the Bylaws of the South Dakota Foundation for Medical Care were referred to the Committee on Reports of Special Committees and Miscellaneous Business.

PROPOSED CHANGES IN THE BY-LAWS  
OF THE SOUTH DAKOTA FOUNDATION  
FOR MEDICAL CARE TO PUT THE  
FOUNDATION IN COMPLIANCE  
WITH PSRO GUIDELINES

BE IT RESOLVED, that the House of Delegates of the South Dakota State Medical Association amend the Bylaws of the South Dakota Foundation for Medical Care as follows:

Article II, Section B

delete the entire section which reads as follows:

B. ASSOCIATE MEMBERS—each of the following organizations and associations may have one member representing them: the South Dakota Dental Association, the South Dakota Pharmaceutical Association, the South Dakota State Hospital Association, the South Dakota Nurses Association.

Article IV, Section 2

amend to read as follows:

Section 2. The directors shall be elected from actively practicing physicians in South Dakota. There shall be one director elected for every 50 physicians or fraction thereof from each medical district. Such directors shall be elected by the physicians in the medical district. In addition, the South Dakota Osteopathic Association shall elect one director for each 50 osteopathic physicians in South Dakota.

In addition, there may be 5 non-physician health-care provider directors who shall be elected by their constituent members. Such providers may include but not be limited to; one member from the South Dakota Dental Association, the South Dakota Pharmaceutical Association, the South Dakota Hospital Association, the South Dakota Nurses Association, and the South Dakota Nursing Home Administrators Association.

There shall be in addition to the previously stated directors, two directors who are consumers of medical services. These two directors shall be elected by the other members of the Board of Directors.

During the organizational period, the director or directors shall serve as follows: directors from Districts I, II, III and IV shall serve for one year; directors from Districts V, VI, VII and VIII shall serve for two years; and the directors from Districts IX, X, XI and XII shall serve for three years.

The directors from the South Dakota Osteopathic Association shall serve a three year term.

The five non-physician health provider directors shall

serve terms as follows: two shall serve a one year term; two shall serve for two years; and one shall serve a three year term.

The two consumer directors shall serve a term of one year and two years respectively.

Thereafter, all directors shall serve three year terms, however, no director shall serve more than two consecutive three year terms.

(Adopted—see Second House of Delegates)

M. G. Langenfeld, M.D., submitted Resolution #10 concerning abortion which was referred to the Committee on Reports of Special Committees and Miscellaneous Business.

RESOLUTION # 10

TO: House of Delegates  
South Dakota State Medical Association  
FROM: M. G. Langenfeld, M.D.  
SUBJECT: Abortion

WHEREAS, it is realized that through the misguided judgment of our legislative and judicial system that abortion is legal,

BE IT RESOLVED, that the South Dakota State Medical Association stands against these liberalized abortion laws.

(Rejected—See Second House of Delegates Meeting)

Dr. Gregg read resolution #9, submitted by the Council, concerning election of AMA Trustees which was referred to the Committee on Credentials, Resolutions and Memorials, and Reports of Officers and Councilors.

RESOLUTION #9

TO: House of Delegates  
South Dakota State Medical Association  
FROM: The Council  
SUBJECT: Election of AMA Board of Trustees

WHEREAS, the AMA at the House of Delegates at the 1973 clinical convention voted to elect members of the Board of Trustees of the AMA by an at-large vote (those receiving greatest number of votes are elected) and,

WHEREAS, the Board of Trustees and the Judicial Council have questioned the validity of this vote,

BE IT RESOLVED, the South Dakota State Medical Association House of Delegates instruct its Delegate to the AMA to strongly support the more democratic method of electing the AMA Board of Trustees by a general at-large ballot.

(Adopted—See Second House of Delegates Meeting)

The proposed amendments to the Bylaws of the South Dakota State Medical Association submitted by the Black Hills District Medical Society were referred to the Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Communications and Liaison.

AMENDMENTS TO BY-LAWS  
OF THE  
SOUTH DAKOTA STATE MEDICAL  
ASSOCIATION

submitted by the Black Hills  
District Medical Society

BE IT RESOLVED by the House of Delegates of the South Dakota State Medical Association that the Bylaws of said Association be amended as follows:

Article IV, Section 7

In the years when a councilor is to be elected from a district society, that society shall in advance of April 1st, select ((three (3) of its members)) (((a member))) to be recommended for each office of councilor from its district to be elected in that year. The ((list)) (((name))) shall be sent to the Secretary-Treasurer of the Association at least thirty (30) days before the Annual Session, and the ((lists))

((name))) shall be submitted to the Nominating Committee of the House of Delegates upon its appointment.

In addition to, and concurrently with, the submission of the foregoing recommendation for councilors, each district society shall submit ((a list of three (3) of its members)) (((the name of a member))) to be recommended as alternate councilor for each councilor to be elected for that year. ((Such list may duplicate one or more of the names on the list recommending councilors)).

Article VII, Section 2, a, line 11

Whenever a councilor's term expires, the Nominating Committee shall select at least one (1) nominee for the office of councilor from each district and at least one (1) nominee for the office of alternate councilor from each district from each list ((of three (3))) submitted by each component district society.

(Adopted—See Second House of Delegates Meeting)

T. H. Sattler, M.D., president of the South Dakota State Medical Association, addressed the House on his experiences during the past year and his thoughts on the priorities in the future for the State Association.

The meeting adjourned at 10:00 a.m.

## SECOND MEETING OF THE HOUSE OF DELEGATES

1:30 p.m.

Sunday, June 2, 1974

Holiday Inn

Aberdeen, South Dakota

The meeting was called to order by J. B. Gregg, M.D., Speaker of the House.

Present for roll call were Doctors Sattler, Van Demark, Tracy, Reding, Gregg, Quinn, Taylor, Seaman, Bartron, Lushbough, Swanson, Leigh, Lewis, Begley, Jones, Reaney, Hamm, Harris, Nemer, Ryan, Bell, Gerber, Steele, Driver, Fedt, Nelson, Klar, Shaskey, Jahraus, Buchanan, Karlen, Gere, Gunnarson, Shaeffer, Lang, Angelos, McManus, Leander, Porter, Honke, Held, Javurek, Langenfeld, Bloemendaal, Mangulis, Cosand, Johnson and student representatives, James Cassat and Larry Weitzenkamp.

Dr. Nelson moved to dispense with the reading of the minutes of the previous meeting inasmuch as they will be published. The motion was seconded by Dr. Buchanan and carried.

Dr. Begley moved that discussions be limited to three minutes and rebuttal limited to one minute. The motion was seconded by Dr. Lang and carried.

The report of the Nominating Committee was read by Dr. Richard Gere.

### REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee submits the following recommendations for the consideration of the House of Delegates

#### COUNCILORS

Aberdeen District #1	David Seaman, M.D.
Watertown District #2	G. Robert Bartron, M.D.
Pierre District #4	C. L. Swanson, M.D.
Yankton District #8	Duane Reaney, M.D.
Sioux Falls District #7	Paul Aspaas, M.D.

#### ALTERNATE COUNCILORS

Aberdeen District #1	Karl Kosse, M.D.
Watertown District #2	E. H. Heinrichs, M.D.
Pierre District #4	R. C. Jahraus, M.D.
Yankton District #8	Clark Johnson, M.D.
Sioux Falls District #7	Stanley Devick, M.D.

#### OFFICERS

President	Robert E. Van Demark, M.D.
President Elect	G. E. Tracy, M.D.
Vice President	Fred Leigh, M.D.
AMA Delegate	R. H. Quinn, M.D.

AMA Alternate

J. T. Elston, M.D.

W. R. Taylor, M.D.

Speaker of the House

J. B. Gregg, M.D.

#### ANNUAL MEETING SITE

1975 — Sioux Falls, May 30, 31, June 1

1976 — Rapid City

1977 — Aberdeen

Respectfully submitted,

NOMINATING COMMITTEE

R. G. Gere, M.D., Chairman

Dr. Fedt moved that the House of Delegates cast a unanimous ballot for the proposed Councilors, David Seaman, M.D., G. Robert Bartron, M.D., C. L. Swanson, M.D., Duane Reaney, M.D. and Paul Aspaas, M.D. The motion was seconded by Dr. Harris and carried.

Dr. Lushbough moved that the House of Delegates cast a unanimous ballot for the proposed Alternate Councilors, Karl Kosse, M.D., E. H. Heinrichs, M.D., R. C. Jahraus, M.D., Clark Johnson, M.D. and Stanley Devick, M.D. The motion was seconded by Dr. Begley and carried.

Dr. Karlen moved that the House cast a unanimous ballot for R. E. Van Demark, M.D. for President. The motion was seconded by Dr. Lushbough and carried.

Dr. Reding moved that the House cast a unanimous ballot for G. E. Tracy, M.D. for President Elect. The motion was seconded by Dr. Buchanan and carried.

Dr. Buchanan moved that the House cast a unanimous ballot for Fred Leigh, M.D. for Vice President. The motion was seconded by Dr. Karlen and carried.

Dr. Lang moved that the House cast a unanimous ballot for R. H. Quinn, M.D. for AMA Delegate. The motion was seconded by Dr. Jones and carried.

An election was held for the position of AMA Alternate Delegate; nominees being J. T. Elston, M.D. and W. R. Taylor, M.D. Dr. Elston was declared the AMA Alternate Delegate.

Dr. Lang moved that the House cast a unanimous ballot for J. B. Gregg, M.D. for Speaker of the House. The motion was seconded by Dr. Lushbough and carried.

Dr. Gere moved to accept the report of the Nominating Committee. The motion was seconded by Dr. Langenfeld and carried.

Dr. Sattler introduced Dr. Malcolm Todd, President Elect of the AMA who spoke on political decisions and their effect on the practice of medicine.

The report of the Reference Committee on Credentials, Resolutions and Reports of Officers and Councilors was read by Dr. R. W. Honke.

### REPORT OF THE REFERENCE COMMITTEE ON CREDENTIALS, RESOLUTIONS AND REPORTS OF OFFICERS AND COUNCILORS

The following delegates, alternates, officers and councilors of the South Dakota State Medical Association were present: Doctors T. H. Sattler, R. E. Van Demark, G. E. Tracy, A. P. Reding, J. B. Gregg, R. H. Quinn, W. R. Taylor, David Seaman, G. R. Bartron, Bruce Lushbough, C. L. Swanson, Fred Leigh, H. R. Lewis, B. J. Begley, Warren Jones, Paul Aspaas, Duane Reaney, J. N. Hamm, R. H. Harris, R. G. Nemer, James Ryan, Eldon Bell, B. C. Gerber, G. H. Steele, Irina Driver, D. N. Fedt, P. S. Nelson, Werner Klar, Barbara Spears, David Buchanan, Louis Karlen, R. G. Gere, Richard Gunnarson, Denny Ortmeier, James Shaeffer, Durward Lang, John Billion, T. A. Angelos, Richard Porter, Richard Honke, Gordon Held, A. J. Javurek, M. G. Langenfeld, W. J. Mattson, A. J. Barrett, R. D. Bloemendaal, M. R. Cosand, E. A. Johnson and student representatives, James Cassat and Larry Weitzenkamp.

A quorum was present for the meeting of the House of Delegates. A total registration for the convention is 288, including 161 physicians, 14 guests, 92 Auxiliary members and 21 sponsors.



The Committee submits the following resolution for the consideration of the House of Delegates:

WHEREAS, the Aberdeen District Medical Society and the Ladies Auxiliary members have been so thorough in making arrangements for the success of the combined meeting of our 93rd anniversary,

BE IT RESOLVED, that the South Dakota State Medical Association give its voice in appreciation and thanks to the local physicians in Aberdeen and their wives.

WHEREAS, the management of the Holiday Inn has been so cooperative in providing facilities for the success of the 93rd Annual Meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Holiday Inn.

WHEREAS, the Chamber of Commerce of Aberdeen has provided excellent assistance in making it possible for the success of the working arrangements,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks and appreciation to the Aberdeen Chamber of Commerce.

WHEREAS, the Aberdeen American News, KDLO TV and KCOO TV have been most cooperative in presenting the public news of the 93rd annual meeting of the South Dakota State Medical Association,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen American News, KDLO TV and KCOO TV.

WHEREAS, the Aberdeen Country Club has provided facilities for the stag party and has contributed greatly to the success of the annual meeting,

BE IT RESOLVED, that the South Dakota State Medical Association extend its thanks to the Aberdeen Country Club.

BE IT RESOLVED, that \$50 be donated to the South Dakota Medical School Endowment Association in memory of the following physicians who died during the past year:

James A. Nelson, M.D.  
J. J. Feehan, M.D.  
F. J. Tobin, M.D.  
Charles Ihle, M.D.  
J. D. Alway, M.D.  
Harold Crane, M.D.  
Aladar Horthy, M.D.  
John C. Hagin, M.D.  
Henry Davidson, M.D.

The Committee reviewed the reports of the officers and councilors and approved them as submitted.

Dr. Werner Klar appeared before the committee and recommended that the Executive Secretary, Robert D. Johnson be commended for his effective service during the legislative session and the liaison created especially in areas pertaining to the new four-year medical school.

The Committee considered Resolution #9 and recommended a "Do Pass".

Respectfully submitted  
REFERENCE COMMITTEE ON  
CREDENTIALS, RESOLUTIONS AND  
REPORTS OF OFFICERS  
AND COUNCILORS  
R. W. Honke, M.D., Chairman  
James Shaeffer, M.D.  
Parry Nelson, M.D.

Dr. Begley moved that the House of Delegates accept the report of the Reference Committee on Credentials, Resolutions and Reports of Officers and Councilors. The motion was seconded by Dr. Harris and carried.

The report of the Reference Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations was read by Dr. Karlen.

#### **REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF COMMISSIONS ON MEDICAL SERVICE, LEGISLATION AND GOVERNMENTAL RELATIONS**

The Reference Committee considered the report of the Commission on Medical Service. The Reference Committee recommended that any training programs initiated by sources from outside the local medical staff or the medical district should first be submitted to the local medical community for their approval and assistance. The Reference Committee recommends the acceptance of the report of the Commission on Medical Service.

The Reference Committee considered the report of the Commission on Legislation and Governmental Relations. The Committee notes that it was a most successful legislative year and would like to commend the Commission for its work. The Reference Committee recommends the acceptance of the report of the Commission on Legislation and Governmental Relations.

The Reference Committee considered Resolution #1 concerning emergency room training. The Committee recommends the adoption of this Resolution.

The Reference Committee considered Resolution #4 concerning Indian health care. The Committee recommends the adoption of this Resolution.

The Reference Committee considered Resolution #5 concerning uniform insurance forms. The Committee recommends the adoption of this Resolution.

Respectfully submitted,  
REFERENCE COMMITTEE ON  
REPORTS OF COMMISSIONS  
ON MEDICAL SERVICE,  
LEGISLATION AND GOVERN-  
MENTAL RELATIONS  
L. W. Karlen, M.D., Chairman  
M. Langenfeld, M.D.  
Durward Lang, M.D.

Dr. Gerber moved that Resolution #1 be amended to read, "Be it resolved, that the South Dakota State Medical Association establish or designate a committee or commission to work with the South Dakota State Hospital Association, South Dakota State Nursing Association, the South Dakota State Emergency Medical Council and the South Dakota College of Surgeons for this purpose." The motion was seconded by Dr. Lewis and carried. Dr. Begley moved that the House accept the report of the Reference Committee on Reports of Commissions on Medical Service, Legislation and Governmental Relations as amended. The motion was seconded by Dr. Cosand and carried.

The report of the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Communications and Liaison was read by Dr. Buchanan.

#### **REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF THE COMMISSIONS ON SCIENTIFIC MEDICINE, INTERNAL AFFAIRS, COMMUNICATIONS AND LIAISON**

The Reference Committee considered the report of the Commission on Internal Affairs, Communications and Liaison. The Reference Committee recommended that the Commission reevaluate the feasibility of maintaining and subsidizing the Journal of Medicine. The Committee reviewed the proposed budget and recommended that the Budget and Audit Committee be enlarged to include the Executive Committee of the State Association and the Chairman of the Commission on Internal Affairs, Communications and Liaison. The Committee also recommended that the State Association dues be increased from \$125 to \$150 annually effective for the year 1975-76. The Reference Committee recommended the acceptance of the remainder of the report of the Commission on Internal Affairs, Communications and Liaison.

The Reference Committee considered the report of the Commission on Scientific Medicine. The Committee

recommended that the section of the report pertaining to the breast cancer screening program not be accepted and that the Commission be requested to resubmit a more complete and accurate report on this subject to the Council; such report to include the original deliberations of the Commission and subsequent action taken.

The Reference Committee considered Resolution #2 regarding the use of local anesthetics in high school athletics. The Reference Committee recommended the adoption of this resolution.

The Reference Committee considered Resolution #6 concerning hospital admission certification. The Committee recommended that the House of Delegates reject this resolution inasmuch as such proposal has been rescinded.

The Reference Committee considered the Amendments to the Bylaws of the South Dakota State Medical Association concerning the election of Councilors. The Committee recommended the adoption of this amendment.

Respectfully submitted,  
REFERENCE COMMITTEE ON  
REPORTS OF THE COMMISSIONS ON SCIENTIFIC MEDICINE,  
INTERNAL AFFAIRS, COMMUNICATIONS AND LIAISON  
D. J. Buchanan, M.D., Chairman  
B. J. Begley, M.D.  
B. C. Gerber, M.D.

Dr. Jones moved that the House accept the recommendation of the committee concerning the Journal of Medicine. The motion was seconded by Dr. Lewis and carried.

Dr. Buchanan moved that the House accept the recommendation of the committee to enlarge the Budget and Audit Committee. The motion was seconded by Dr. Gerber and carried.

Dr. Lang moved that the House accept the recommendation of the committee for a \$25 dues increase. The motion was seconded by Dr. Gunnarson. Dr. Reding discussed the report of the Budget and Audit Committee urging a \$50 dues increase. Dr. Reding moved to amend the motion to increase the dues to \$50 annually effective for the year 1975-76. The motion was seconded by Dr. Shaskey and carried. Vote: 30 for, 13 against. Dr. Lushbough moved to accept the reference committee report concerning dues as amended. The motion was seconded by Dr. Seaman and carried. Vote: 30 for, 7 against.

Dr. Barrett moved that the House accept the recommendation of the committee concerning the breast cancer screening program. The motion was seconded by Dr. Langenfeld and carried.

Dr. Van Demark moved that the House accept the recommendation of the committee concerning Resolution #2, the use of local anesthetics in high school athletes. The motion was seconded by Dr. Ryan and carried.

Dr. Begley moved that the House accept the recommendation of the committee to reject Resolution #6, hospital admission certification. The motion was seconded by Dr. Buchanan and carried.

Dr. Hamm moved that the House accept the recommendation of the committee to amend the Bylaws of the South Dakota State Medical Association pertaining to the election of Councilors and Alternate Councilors. The motion was seconded by Dr. Javurek and carried.

Dr. Angelos moved that the House accept the report of the Reference Committee on Reports of the Commissions on Scientific Medicine, Internal Affairs, Communications and Liaison as amended. The motion was seconded by Dr. Reaney and carried.

The report of the Reference Committee on Reports of Special Committees and Miscellaneous Business was read by Dr. Lewis.

#### REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF SPECIAL COMMITTEES AND

#### MISCELLANEOUS BUSINESS

The Committee reviewed the report of the Committee for Continuing Medical Education and recommends the acceptance of this report.

The Committee reviewed the report of the Grievance Committee and recommends the acceptance of this report.

The Committee reviewed the report of the State Utilization and Insurance Review Committee and recommends the acceptance of this report.

The Committee reviewed the report of the South Dakota Foundation for Medical Care and recommends the acceptance of this report.

The Committee reviewed the report of the Relative Value Study Committee and recommends the acceptance of this report.

The Committee reviewed the report of the Ad Hoc Committee on the Early Periodic Screening Diagnosis and Treatment Program. The Committee recommends that Recommendation #6, regarding school athletic examinations be amended to read as follows:

6. School athletic examinations are the responsibility of the respective school authorities. It is hoped that a copy of the EPSDT examination will be recognized as a satisfactory examination for this purpose for one school year after the date of the examination.

The Committee recommends that the second paragraph of Recommendation #9 be amended to read as follows:

In each identified anemia case (below 10.0 gram hemoglobin) the workup will include possible causes of anemia.

The Committee recommends the adoption of this report with these changes.

The Committee considered Resolution #3, concerning Medical Ethics submitted by the 2nd District Medical Society. The Committee recommends that Resolution #3 not be adopted.

The Committee considered Resolution #7, concerning PSRO (Professional Standards Review Organization) submitted by the 8th District Medical Society. The committee recommends that this resolution not be adopted, but submits the following substitute resolutions:

#### Minority substitute resolution

BE IT RESOLVED the South Dakota State Medical Association favors the repeal of PSRO legislation (PL 92-603)

#### Majority substitute resolution

WHEREAS Public Law 92-603 is considered to be ill-conceived and will be detrimental to the best possible patient care, and

WHEREAS The peer review study concept is compatible with good medical practice; and utilization, quality, and costs of health care are in the public interest,

BE IT RESOLVED that the House of Delegates of the South Dakota State Medical Association approve these concepts and objectives with the necessary reservation that continuing study and future constructive amendments are absolutely essential in making any legislation regarding peer review effective.

The Committee submits these substitute resolutions for your consideration.

The Committee considered the proposed changes in the Bylaws of the South Dakota Foundation for Medical Care and recommends that these proposed Bylaws be adopted.

The Committee considered Resolution #8, concerning the Relative Value Study submitted by the 7th District Medical Society and recommends that this resolution not be adopted.

The Committee considered Resolution #10, submitted by M. G. Langenfeld, M.D., concerning abortion. The Committee recommends that this resolution not be adopted.

Respectfully submitted,  
REFERENCE COMMITTEE ON



## REPORTS OF SPECIAL COMMITTEES AND MISCELLANEOUS BUSINESS

Loren H. Amundson, M.D., Chairman  
Harvard Lewis, M.D.  
R. D. Bloemendaal, M.D.

Dr. Gere moved that the House accept the reference committee report concerning the Committee on Continuing Medical Education, the Grievance Committee, the State Utilization and Insurance Review Committee, the South Dakota Foundation for Medical Care and the Relative Value Study Committee. The motion was seconded by Dr. Seaman and carried.

Dr. Buchanan moved that the House accept the amendments concerning the Early Periodic Screening Diagnosis and Treatment Program as proposed by the reference committee. The motion was seconded by Dr. Sattler and carried. Dr. Bartron moved that the House accept the report of the committee as amended with regard to the Early Periodic Screening Diagnosis and Treatment Program. The motion was seconded by Dr. Lushbough and carried.

Dr. Begley moved that the House accept the recommendation of the committee to reject Resolution #3, medical ethics. The motion was seconded by Dr. Jones and carried.

Dr. Bartron moved that the majority substitute resolution be amended to state that the PSRO Law in its present form appears unacceptable to the practice of medicine and that the delegate to the AMA be instructed to support the amendments to the Law for implementation and improvement. The motion was seconded by Dr. Lushbough and carried. Vote: 33 for, 11 against. Dr. Javurek moved that the House accept the minority substitute resolution. The motion was seconded by Dr. Leigh and carried. Vote: 27 for, 15 against. Dr. Ryan moved that the House accept the recommendation of the reference committee to reject Resolution #7 the repeal of PSRO, and accept the amended majority substitute resolution and the minority resolution. The motion was seconded by Dr. Leigh and carried.

Dr. Shaskey moved that the House accept the recommendation of the committee concerning the change of Bylaws of the South Dakota Foundation for Medical Care. The motion was seconded by Dr. Bell and carried.

Dr. Harris moved that the House accept the recommendation of the committee to reject Resolution #8, Relative Value Study. The motion was seconded by Dr. Nelson and carried.

Dr. Nelson moved that the House accept the recommendation of the committee to reject Resolution #10, Abortion. The motion was seconded by Dr. Cosand and carried.

Dr. Klar moved that the House accept the report of the Reference Committee on Reports of Special Committees and Miscellaneous Business as amended. The motion was seconded by Dr. Johnson and carried.

Dr. Gregg administered the Oath of Office to Dr. R. E. Van Demark, the newly elected president.

Dr. Gregg introduced the new officers: Dr. R. E. Van Demark, President; Dr. G. E. Tracy, President Elect; Dr. Fred Leigh, Vice President; Dr. R. H. Quinn, AMA Delegate and Dr. J. T. Elston, AMA Alternate Delegate.

The meeting adjourned at 4:30 p.m.

## REPORT OF THE PRESIDENT OF THE SOUTH DAKOTA STATE MEDICAL ASSOCIATION AND CHAIRMAN OF THE EXECUTIVE COMMITTEE

The demanding but very interesting involvements of our Association have made this a most exciting year as your president.

The strength of our Association lies with the commissions, council, and delegates. Having participated in all their meetings, I can certainly reaffirm the value of their dedicated study in making recommendations and decisions for the Association.

Spending a number of days observing our state legislature in session is indeed a learning experience. Emphasis again should be placed on the importance of year-round involvement in dialog with their political representatives on the part of all members of the Association.

Major Medical Association interest focused on support of a degree-granting medical school. The degree-granting medical school proposal benefited from the effective support of the Citizens Committee. Dean Karl Wegner was a vital catalyst in obtaining the overwhelming approval and funding of this long sought-after goal in medical education for South Dakota. The work of previous years by many members of the Association, especially our Presidents of the past two years — Dr. Robert Bartron and Dr. William Taylor — was a major factor in bringing about an affirmative decision by our state government.

Other areas of major progress include continuing education programs and establishment of South Dakota Foundation for Medical Care that can perform state PSRO functions when required. Details will be presented elsewhere in the proceedings of our Association.

The annual House of Delegates sessions of the AMA in June and the mid-winter delegate sessions in December, which I attended with our official delegate and alternate delegate, Robert Quinn and John Stransky, were major opportunities to see democracy in effective action.

The North Central Conference meeting in Minneapolis last fall was very helpful in approaching regional problems.

The AMA Leadership Workshop in Chicago in February and the AMPAC conference in Washington, D.C. in March were meetings of note and will be reported more completely to the membership.

A highlight of the presidency is the opportunity to visit and enjoy the fine hospitality of each of the districts. Having witnessed the concern and dedicated discussions of our district members, I can attest to the vitality of our grass roots strength and dedication.

It has been a good year! I do appreciate the opportunity of serving as your president and shall treasure the activities and friendships made possible. The road was efficiently smoothed by our exceedingly competent Executive Secretary, Bob Johnson, and his efficient staff, Patty Butler and Jan Anderson.

Respectfully submitted,  
T. H. Sattler, M.D.  
President

*The Reference Committee reviewed the report of the President and recommends its approval as submitted.*

## REPORT OF THE PRESIDENT-ELECT

The President-Elect of the State Medical Association attended all regular and special meetings concerned with this office. A sincere attempt was made to get oriented on all issues facing the Medical Association and Medical Society and the advice and counsel of the more experienced members on the various issues was obtained.

Respectfully submitted,  
Robert E. Van Demark, M.D.  
President-Elect

*The Reference Committee reviewed the report of the President-Elect and recommends its approval as submitted.*

## REPORT OF THE VICE-PRESIDENT

During this past year I have had the opportunity and privilege of attending all the council meetings and executive committee meetings of the South Dakota State Medical

Association. It is evident that there is an increasing area of involvement of the Medical Association in all the fields of medical care, including medical education, and a constant need for awareness to insurance and governmental effects on medical practice.

The opportunity for becoming more familiar with all these areas is gratefully appreciated as is all the help that has come from so many of the physicians throughout the state.

Respectfully submitted,  
Gerald E. Tracy, M.D.  
Vice President

*The Reference Committee reviewed the report of the Vice President and recommends its approval as submitted.*

#### **REPORT OF THE SECRETARY-TREASURER**

As your officer, I attended the meeting of the Audit and Budget Committee, June 8, 1973, at the Howard Johnson Motor Inn, Rapid City; a special Finance Committee meeting in Sioux Falls, on November 14, 1973, and a special meeting on future budgeting with the executive secretary on March 6, 1974. I attended the meetings of the Council and the Executive Committee during the year.

The other duties of my office were carried out with the assistance of our competent executive secretary, Robert D. Johnson, and the staff at the Association office.

Respectfully submitted,  
A. P. Reding, M.D.  
Secretary-Treasurer

*The Reference Committee reviewed the report of the Secretary-Treasurer and recommends its approval as submitted.*

#### **REPORT OF THE AMA DELEGATE**

Since the last report, this delegate has attended the annual and clinical sessions of the AMA. I have attended all but one of the Council meetings during the past year.

The decisions being made in the House of Delegates of the AMA are becoming more important and more meaningful to the practicing physician. It is quite imperative that all members of the South Dakota Medical Association keep themselves current on problems and resolutions being presented to this group. Only by receiving proper instruction can your delegate and alternate delegate vote and deliberate correctly on the multitude of resolutions being presented at each meeting.

Respectfully submitted,  
Robert H. Quinn, M.D.  
AMA Delegate

*The Reference Committee reviewed the report of the AMA Delegate and recommends its approval as submitted.*

#### **REPORT OF THE AMA ALTERNATE DELEGATE**

During the past year, I did attend both the annual meeting of the AMA in New York City, and the clinical session in Anaheim. In addition, I have made an effort to attend the regular Council meetings during the past year.

Respectfully submitted,  
John J. Stransky, M.D.  
AMA Alternate Delegate

*The Reference Committee reviewed the report of the AMA Alternate Delegate and recommends its approval as submitted.*

#### **REPORT OF THE CHAIRMAN OF THE COUNCIL**

Following the House of Delegates meeting at the 92nd Annual Session of the South Dakota State Medical Association, the Council re-convened in Rapid City, South Dakota, on June 10, 1973, to take care of any unfinished business and elect a chairman for the ensuing year. These transactions have been reported in your report of the 92nd Annual Session.

The next meeting was an Executive Committee meeting of the South Dakota State Medical Association, and the

ad hoc committee of the South Dakota Blue Shield held in Sioux Falls, on Wednesday, July 11, 1973. This concerned the proposed sale of our present building to Blue Shield, and the proposed building of a new building for the Association.

The next meeting was a special Council meeting on August 1, 1973. Again, this concerned the sale of the headquarters building to Blue Shield, and the purchasing of a lot and proceeding to construct a new building on this lot to house the Medical Association. These minutes have been duly printed in your Medical Journal and I am happy to inform you that the new building is well underway and we are hoping for occupancy around June 1, 1974.

The next regular Council meeting was on Saturday, October 13, 1973, at Sioux Falls. The entire minutes of this meeting have been properly and duly printed in the South Dakota State Medical Journal.

The next regular meeting of the Council was in Sioux Falls on Saturday, January 12, 1974. Here, again, the minutes of this meeting have been printed as directed and ordered in the South Dakota State Medical Association Journal for the membership's perusal.

Our next regular meeting before the State Convention in Aberdeen, will be on April 19th and April 20th, at Mobridge, South Dakota, and the proceedings of this meeting will be reported in your Journal, as well as to the proper authorities at the annual meeting in Aberdeen.

Respectfully submitted,  
Fred D. Leigh, M.D.  
Chairman of the Council

*The Reference Committee reviewed the report of the Chairman of the Council and recommends its approval as submitted.*

#### **REPORT OF THE SPEAKER OF THE HOUSE**

As Speaker of the House, I have attended Council meetings and participated in the deliberations of the Executive Committee of the South Dakota State Medical Association. Chairmen and members of the Reference Committees will be appointed prior to the annual meeting of the House of Delegates which will meet in Aberdeen, May 31 and June 2. G. E. Tracy, M.D. of Watertown, has consented to serve as parliamentarian during the sessions to insure that business is conducted in an orderly manner.

Respectfully submitted,  
J. B. Gregg, M.D.  
Speaker of the House

*The Reference Committee reviewed the report of the Speaker of the House and recommends its approval as submitted.*

#### **REPORT OF THE COUNCILOR AT LARGE**

As Councilor at Large, I attended all meetings of the Council of the South Dakota State Medical Association during the year 1973-74. It was most gratifying to see the growth of the Association numerically and to see the progressive effectiveness of its policies and activities.

Respectfully submitted,  
W. R. Taylor, M.D.  
Councilor at Large

*The Reference Committee reviewed the report of the Councilor at Large and recommends its approval as submitted.*

#### **REPORT OF THE EXECUTIVE SECRETARY**

**Liaison with District Societies**—Throughout this past year, President Sattler and I were graciously received by all twelve district medical societies. The hospitality shown by the district medical societies was most appreciated by both Dr. Sattler and myself, and the unity among the members of the medical profession in South Dakota was most gratifying. Through working together it is apparent that the goals of medicine can most effectively be achieved. This spring the State Medical Association office with the



assistance of the district medical societies instituted a new billing program for physicians' dues to the district, state and AMA. Through the outstanding cooperation provided by the officers of the district medical societies, the new billing program has been a tremendous success. On many occasions this past year, the State Association has called on not only the Councilors and Officers from throughout the state, but also on the district medical society officers for advice and consultation. Such assistance has been most helpful in establishing Medical Association policy and in achieving results for programs implemented. Activity within the district medical societies is most important, and I would like to commend all of the district medical societies for scheduling most productive meetings throughout the year and would hope that they continue to do so in the future.

**Public and Professional Relations** — President Sattler and members of your staff represented you at numerous meetings held throughout the country with allied health groups, national and state government, news media and legislators. We were most pleased with the results of our public relation campaign which is, of course, the culmination of several years' effort. We feel that the support which medicine has received for many of its programs throughout this past year, especially on a local basis within the state of South Dakota, is something that the officers and councilors of your Association, and in fact, all physicians in the state can look to with pride. Although we were most pleased with our past results in our public relations programs, we must be ever mindful of the fact that public relations is an ongoing effort and that we must constantly strive to improve the public image of the medical profession.

**Headquarters Building** — On April 28, 1973, the Council of the Medical Association reviewed in depth the quarters available for the State Medical Association. Due to continued expansion of Blue Shield and anticipated expansion of the Medical Association, it became apparent that a change would be necessary in our present building. The Council then appointed an Ad Hoc Committee to review and report back to the Council with recommendations as to the course of action that the Medical Association should follow. This committee consisted of B. J. Begley, M.D.; R. H. Quinn, M.D.; and Mr. John Burkholder. The committee, after meeting and reviewing in depth the alternative proposals available, recommended that the Association divest its interest in the present headquarters building. This recommendation was received by the Council at which time, the Council designated the Executive Committee to meet with an Ad Hoc Committee of Blue Shield. The members of the Executive Committee, Fred Leigh, M.D.; J. B. Gregg, M.D.; T. H. Sattler, M.D.; R. E. Van Demark, M.D.; G. E. Tracy, M.D. and A. P. Reding, M.D., met and reviewed the report of the Ad Hoc Committee. The committee recommended that the Association sell its present quarters at 711 North Lake Avenue. This committee reviewed the possibility of renting space to house the Association. It was reported that the cost of rental space to house the Association would be excessive and would in fact act as a continuing drain on the Medical Association dues income and would not be advisable.

The Committee considered the possibility of purchasing an already existing structure to house the Association; however, there was no property available at the time the Association was in the market; unless the Association invested considerably more money than would seem appropriate. Consequently, the Executive Committee recommended to the Council that the Association purchase a lot at 608 West Avenue, North, from Blue Shield for the purpose of constructing a new Medical Association building. The Committee reached this decision based on the following reasons:

1. The Association was apprised by its accountant that the income earned from the Medical Association building was approaching such a point that it very well might jeopardize the tax exempt status of the Medical Association and should be reviewed carefully.
2. It was the feeling of the Committee that in order to adequately house both Blue Shield and the Medical Association under one structure, an addition to the present building at 711 North Lake in the amount of approximately \$200,000 would be required. The Committee felt that it would be unwise to commit the Association to a debt of this magnitude at this time.
3. The present headquarters building is approaching fifteen years of age and rather extensive maintenance costs are foreseen in the near future.
4. The present building has been so adapted that it is not suitable to rent to outside parties without considerable remodeling costs, and since Blue Shield could not enter into a long-term lease agreement on this particular building, it appears most feasible that the Association divest its interest in the present headquarters building.

The Council directed that the findings of the Ad Hoc Committee and the Executive Committee and the recommendations from the Council to sell the Association building, to purchase a lot from Blue Shield and to construct a building on this lot, be submitted to the entire House of Delegates, and a ballot vote cast regarding these recommendations. It was the consensus of the House of Delegates, 29 for and 2 against, that the Association proceed to divest its interest in the property at 711 North Lake Avenue and construct a new headquarters building at 608 West Avenue, North. The new building is nearing completion and occupancy is expected in late May or early June. We feel certain that the Association can be extremely proud of the new headquarters facility which they will have available.

**Commissions and Committees** — All Commissions of the State Medical Association met at least twice this past year, and a report of their activities is included in the Delegate's Handbook. The Grievance Committee, the State Utilization and Insurance Review Committee, the Relative Value Study Committee, the Budget and Audit Committee and the special Finance Committee met during the year. The attendance at Commission and Committee meetings has been excellent this past year, and the chairmen and members of the Commissions and Committees should be commended for the time and effort they have put forth in establishing Association policy and making recommendations to the Council and House of Delegates. It is only through the active participation of the Commission and Committee members that your Association is able to receive the wide variety of opinions necessary to enact policies and programs which will meet the needs of the entire membership.

**Legislation** — The 1974 legislative session found in excess of thirty bills directly affecting the medical profession in the state of South Dakota. Of these bills, one was of primary importance — that establishing the degree granting medical school. Through a concerted effort on the part of physicians throughout the state of South Dakota, finally we were able to achieve a goal which the Association has established and has been diligently working towards for a number of years. Although the list of persons who deserve special thanks on this bill would be almost endless, I feel special recognition should be given to Dr. Karl Wegner for the outstanding efforts he gave on behalf of the Medical School and for the untiring service which he provided not only to the School of Medicine but also to the medical profession in South Dakota. A special note of thanks should also be given to Dr. Gere, Chairman of the Commission on Legislation and Governmental Rela-

tions and to all members of the legislative commission.

**Journal of Medicine** — The financial condition of the Journal of Medicine continues to be a problem. However, the Commission on Internal Affairs, Communications and Liaison and the Council have been monitoring the progress of the Journal carefully and it is apparent that in the fairly near future, it may become necessary for the Association to partially subsidize the printing of the Journal through dues income. It is the opinion of your executive secretary that the Journal is a most worthwhile tool in communicating with the profession in the State of South Dakota. I further feel that with the increased emphasis on continuing education, our Journal can play a major role in helping to provide outstanding scientific material for our local physicians. It also provides an avenue for South Dakota physicians to publish their scientific articles which otherwise might not be available if the South Dakota Journal of Medicine were to discontinue its operation. Although the financial picture of the Journal is certainly not encouraging, medical journals throughout the country have experienced similar periods in past years and have also seen, in a period of a few short months and in some cases years, a complete turn around in advertising revenues generated. It would be my hope that some day in the near future, we might once again see the South Dakota Journal of Medicine become financially self-supporting.

**South Dakota Foundation for Medical Care** — At the 1973 meeting of the South Dakota State Medical Association, the House of Delegates adopted Articles and By-laws to create the South Dakota Foundation for Medical Care. The South Dakota Foundation for Medical Care consists of a Board of Directors made up of the officers and councilors of your Association. The Council of the State Medical Association has appointed Dr. J. A. Muggly as chairman of the Executive Committee and asked that he appoint other members to function on the Executive Committee and to advise the Council and the House of Delegates as to appropriate functions for the South Dakota Foundation for Medical Care. The Executive Committee of the Foundation has met on three occasions and are diligently working to provide the leadership necessary to meet the challenges facing medicine in the coming years. Although Public Law 92-603 (PSRO — the Bennett Amendment) is certainly a most controversial issue among the medical profession, it is the opinion of the Executive Committee of your foundation that it will be in the best interests of the physicians of the State of South Dakota, if the South Dakota Foundation for Medical Care monitors and develops programs which will allow the medical profession to play a major role in the implementation of PSRO.

**Summary** — All in all, your executive secretary feels that the Association has had an outstanding year. There have been many accomplishments achieved which the medical profession in the State of South Dakota can view with considerable pride. The leadership this Association has provided not only to the lay public but also to government, most particularly on a state level, has played a major role in the development of programs which most certainly will be of benefit not only to the medical profession but also to all the people of South Dakota. Your executive staff is devoted to the concept of providing as many services as possible to the individual physician, the public and the state. Your organization is and will continue to be beneficial to all South Dakotans. A special vote of thanks must be given to the Officers and Councilors of your Association for these are the men who guide and direct the day to day activities of the Association. The Officers and Councilors have given freely of their time with only one reward and this is providing a better medical climate for all South Dakota physicians and providing the highest quality of medical services to all South

Dakotans. This report would most certainly be incomplete without a very special commendation to Dr. T. H. Sattler, President, for it was under his direction and leadership that your Association saw many of its dreams become reality. Dr. Sattler's dedication and unselfishness truly show that he represented medicine in South Dakota well.

Respectfully submitted,  
Robert D. Johnson  
Executive Secretary

*The Reference Committee considered the report of the Executive Secretary and recommends that it be approved as submitted. The Reference Committee also recommends that the Executive Secretary, Robert D. Johnson, be commended for his effective service during the legislative session and the liaison created especially in areas pertaining to the new four-year medical school.*

#### **REPORT OF THE FIRST DISTRICT COUNCILOR**

The following meetings were held since the last annual report:

##### **April 4, 1973**

Program: Edward Seljeskog, M.D., University of Minnesota, "The Practical Management of Head Injuries"

##### **May 2, 1973**

Program: Richard Lovely, CLU, Insurance Counselor from Minneapolis, "Updated Insurance Concepts"

##### **September 5, 1973**

Program: Burton Miller, M.D., Professor of Surgery, University of Illinois, "Management of the Patient in Shock"

##### **October 3, 1973**

Program: Thomas Shields, M.D., Professor of Surgery, Northwestern University, "The Roles of Surgery, Radiation Therapy and Chemotherapy in the Treatment of Carcinoma of the Lung"

Business: The District voted to give \$500 to the South Dakota Medical School Endowment Association and individual members were urged to contribute in addition to the District's donation.

##### **November 7, 1973**

Program: Arnold S. Leonard, M.D., University of Minnesota, "Tumors in Infants and Children"

##### **December 5, 1973**

Program: Sister Jane Frances Lamm, Miss Karen Jesson, Sister Alma Staudenraus, registered dieticians, gave a panel discussion on "Normal and Therapeutic Nutrition"

Business: New Officers for 1974

President — Juan Chavier, M.D.  
Vice President — Bernard Gerber, M.D.  
Secretary-Treasurer — Tom Bunker, M.D.  
Board of Censors — Alfred Shousha, M.D.

##### **February 6, 1974**

Program: John M. Matsen, M.D., "Anaerobic Infections and Their Treatment"

##### **April 3, 1974**

Program: Ramon B. Gustilo, M.D., St. Louis Park, Minnesota, "Hip and Knee Joint Replacement"

Respectfully submitted,  
David Seaman, M.D.  
Councilor, First District

*The Reference Committee reviewed the report of the Councilor from the First District Medical Society and recommends the approval of this report.*

#### **REPORT OF THE SECOND DISTRICT COUNCILOR**

##### **Officers for 1973:**

President: Dr. Rud  
Vice President: Dr. Stoltz  
Secretary-Treasurer: Dr. Stransky



Board of Censors for 3 years: Dr. Tracy  
Delegates: Dr. Nelson, Dr. Fedt  
Alternate Delegates: Dr. Larson, Dr. Rud  
Utilization Committee for 3 years: Dr. Clark

#### **Officers for 1974:**

President: Dr. Stoltz  
Vice President: Dr. Hughes (Clear Lake)  
Secretary-Treasurer: Dr. Stransky  
Board of Censors: Dr. Rud for 3 years  
Delegates: Dr. Fedt and Dr. Nelson  
Alternate Delegates: Dr. Larson and Dr. Michieli  
Utilization Committee: Dr. Larson for 3 years

The following programs were presented at the Watertown District Medical meetings during the last year.

April, 1973 — Dr. Virginia Johnson from the University of South Dakota showed slides and gave an interesting talk on "Cytogenetics".

May, 1973 — Dr. Stransky presented a program on the abortion issue.

June, July, August, 1973 — No meetings held.

September, 1973 — Meeting at Watertown Country Club, joint meeting of the District Medical Society and District Auxiliary.

October, 1973 — Annual visitation of the State President, Dr. Ted Sattler, and the Executive Secretary of the State Medical Association, Mr. Robert Johnson.

November, 1973 — Film detailing the medical uses of Rhogam.

December, 1973 — Election of officers.

January, 1974 — Dr. Malcolm Foster, Vice Chairman of the Department of Medicine, University of Nebraska, presented a program on "Septic Shock". This program was underwritten by the Upjohn Company.

February, 1974 — Mr. Brekke from the State Office of RMP presented a videotape on "PSRO".

March, 1974 — Mr. John Foley and Mr. Bill Hackett, Attorneys at Law, along with Judge Thomas Ries, presented a program to the Society dealing with the physician-patient privilege.

Respectfully submitted,  
G. Robert Bartron, M.D.  
Councilor, Second District

*The Reference Committee reviewed the report of the Councilor from the Second District Medical Society and recommends the approval of this report.*

#### **REPORT OF THE THIRD DISTRICT COUNCILOR**

Officers elected for the calendar year 1973 in the Third District:

President: Dr. Werner Klar, Flandreau  
Vice President: Dr. James L. Reagan, Madison  
Secretary-Treasurer: Dr. Calvin Kershner, Brookings  
Delegates: Drs. Klar and Shaskey

Meetings held since our last report include a Third District Meeting on April 12, 1973, at Madison, S.D. Scientific program by Dr. I. D. Eiringer, Subject: Dermatology for the General Practitioner.

Third District Meeting, Lake Region Country Club, June 14, 1973. Scientific Program: Emphysema, Bronchitis; Differential Diagnosis and Treatment; Dr. John W. Argabrite, Watertown.

Third District Meeting in Volga, S.D., September 13, 1973. Program, Dr. Kimball, Medicare Claim Reviewer, Blue Cross, Sioux City, Iowa. Third District members gave support to the new headquarters building in Sioux Falls, as outlined at the meeting.

Third District Meeting, December 6, 1973, Flandreau. Scientific Program: Depression. Speaker: Dr. R. B. Leander, Sioux Falls. Dr. Belatti was elected alternate councilor for the Third District at this meeting.

Third District Meeting, February 14, 1974, Holiday Inn, Brookings, S.D. Program: South Dakota State Medical

Association President, Dr. T. H. Sattler, gave a current report concerning the status of Medical Association affairs, particularly pertaining to the newly voted four-year medical school proposal which had just recently passed the State Legislature. Bob Johnson, Executive Secretary, State Medical Association, was also present and made some presentations on other legislative matters which received action at Pierre. It was the decision of the Third District members that Dr. Shaskey be designated as our member to serve on the nominating committee during the 1974 annual meeting. Dr. H. R. Wold of Madison, was voted application for life membership which will be acted on by the Council at their next meeting. It was moved by the District members that Dr. Muggly be nominated for the Distinguished Service Award and Dr. Myron C. Tank be nominated for the Community Service Award to be given this year at the annual meeting in Aberdeen.

Respectfully submitted,  
Bruce C. Lushbough, M.D.  
Councilor, Third District

*The Reference Committee reviewed the report of the Councilor from the Third District Medical Society and recommends the approval of this report.*

#### **REPORT OF THE FOURTH DISTRICT COUNCILOR**

The Fourth District Medical Society held two meetings this past year, one being on the operation and use of the colonoscope, which was quite informative, and the other was primarily a business meeting in which the officers were elected as follows:

President: Robert Hayes, M.D.  
Vice President: C. L. Swanson, M.D.  
Secretary-Treasurer: J. T. Cowan, M.D.  
Censors: L. C. Askwig, M.D., R. J. Zakahi, M.D., and A. J. Tieszen, M.D.  
Delegate: R. C. Jahraus, M.D.  
Alternate Delegate: Barbara Spears, M.D.

Named to the Utilization Review Committee were L. C. Askwig, M.D., B. O. Lindbloom, M.D., and A. J. Tieszen, M.D. R. C. Jahraus, M.D. was again appointed head of the Diabetes Determination Committee. The three names submitted for Councilor were C. L. Swanson, M.D., B. O. Lindbloom, M.D., and D. H. Park, M.D. J. D. Fett, M.D., the newest addition to our District, was nominated as a member and unanimously approved. Robert Johnson and T. H. Sattler, M.D., were present at this meeting and discussed several topics of interest.

The District, at this time, does not wish to submit nominees for the awards.

Respectfully submitted,  
C. L. Swanson, M.D.  
Councilor, Fourth District

*The Reference Committee reviewed the report of the Councilor from the Fourth District Medical Society and recommends the approval of this report.*

#### **REPORT OF THE FIFTH DISTRICT COUNCILOR**

The Huron District Medical Society met, since the last report, on October 10, 1973, at Miller, South Dakota. The usual business was dispensed with, as the State President, Doctor Sattler, was present, accompanied by Mr. Johnson, Executive Secretary. Dr. Sattler covered a variety of topics of interest to the medical profession, and spent considerable time on the proposal of the four-year medical school. He also mentioned PSRO's.

The next meeting was held on December 6, 1973, at Huron, South Dakota, at which time we invited thirteen state senators and representatives, with their wives. Our guest speaker was Doctor Karl Wegner, Dean of the Medical School. He discussed the proposed four year medical school, followed by a very brisk discussion period.

Our next meeting was March 20, 1974, at Huron, South Dakota. Our program at this time, after conducting our

routine business affairs, was a forty-minute film on PSRO's, which was presented by our executive secretary, Mr. Robert Johnson. Following this, there was a very good discussion, and question and answer period. This was followed by the report of the Councilor of the Fifth District (Huron), in regard to the business, so far this year, of the State Medical Association, as conducted by the Council.

We will have one more meeting in May, after the handbooks have been issued to conduct business for the convention and instruct our delegates.

Respectfully submitted,  
F. D. Leigh, M.D.  
Councilor, Fifth District

*The Reference Committee reviewed the report of the Councilor from the Fifth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE SIXTH DISTRICT COUNCILOR

There were only two meetings during the past year in the Sixth District.

The first meeting was held in the Mitchell Country Club in October, 1973, at which time both Dr. Sattler and Dr. Karl Wegner were present. The majority of the time was spent discussing the potential of the four year medical school at the University. The proposal that Dr. Karl Wegner suggested was well received by almost all members of the Sixth District Medical Society. There were many individual pledges to help with legislators in accomplishing the reality of the four year medical school.

The second meeting was held in January, 1974. At that meeting the only business was the election of officers. The elected officers are:

President: John Judge, M.D.  
Vice President: Jack Berry, M.D.  
Sec. Treas.: Richard Gere, M.D.  
Delegates: Richard Gere, M.D., J. O. Mabee, M.D.  
Alternates: Charles Monson, M.D., Robert Delaney, M.D.

The director of medical education was appointed by the president — Ernest Schabauer, M.D. was designated.

No meetings with all of the members have been held since that time, but individual meetings have been held with Dr. Schabauer, Dr. Erdmann, Dr. Judge, Dr. Lewis and Dr. Eberhard Heinrichs, Watertown, S.D., discussing the implementation of setting up a medical education program for this district.

Respectfully submitted,  
H. R. Lewis, M.D.  
Councilor

Sixth District Medical Society

*The Reference Committee reviewed the report of the Councilor from the Sixth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE SEVENTH DISTRICT COUNCILOR

The Seventh District Medical Society held monthly meetings except for the summer months. Scientific programs included a presentation on thyroid function tests, and a presentation on current procedures for radio-immunossay.

The Seventh District was saddened by the death of Dr. Charles Ihle, a long time devoted pediatrician, who passed away in December, 1973.

The Seventh District printed and distributed the bylaws of the District to all the membership.

The Seventh District was honored in November, 1973, by Dr. Theodore Sattler, president of the South Dakota State Medical Association, who visited and gave an excellent presentation concerning PSRO, the medical school, and the need for cooperation between the physicians and hospitals of Yankton and Sioux Falls regarding continuing and undergraduate medical education in the future.

The Seventh District has investigated throughout this year the possibility first of a medical-legal conference to

arbitrate or at least consider possible malpractice actions. This appeared initially to be very promising, but as we delved into it further, it became apparent that the lawyers would not feel bound by the conclusions of such a panel. We next investigated the possibility of the medical conference and are at this stage at the present time. The major underwriter in South Dakota, St. Paul Fire and Marine, highly endorses the concept of a medical conference to go over impending malpractice actions to sort out the nuisance cases from the gray-zone cases from the warranted cases. No final action has been taken on this matter yet.

In November the Seventh District nominated its two new Councilors: Dr. Warren Jones and Dr. Paul Aspaas and nominated alternate Councilors: Drs. Daw, Ensberg and Devick. Dr. Gunnarson was also elected as delegate to replace Dr. Gregg who resigned when he assumed the duties of Speaker of the House of Delegates.

The Seventh District voted \$4,000.00 in October to the Medical School Endowment Association for the Citizens Committee on Medical Advancement.

In February, 1974, the Seventh District hosted a stag for the second year medical students from the University of South Dakota and a most enjoyable evening was had by all.

The Seventh District accepted a gift from the local Elk's Lodge 262 of Telemetry equipment for two ambulances. In turn this equipment will be leased to the local ambulance company on a \$1.00 a year lease basis.

At the December meeting, the following slate of officers were elected: President—Jim Shaeffer; Vice President—Bill Rossing; Secretary—Durward M. Lang; Treasurer—Guy Tam; Delegate term to expire in 1977—Richard Gunnarson; Delegate term to expire in 1976—Charles McDonald; Delegate term to expire in 1975—Dennis Ortmeier; Delegate term to expire in 1974—Greg Naughton; Alternate delegates—M. Mutch, R. Donahoe, T. Angelos, L. Amundson, J. Billion, M. Rost and F. Alvine.

Respectfully submitted,  
B. J. Begley, M.D.  
Councilor Seventh District

*The Reference Committee reviewed the report of the Councilor from the Seventh District Medical Society and recommends the approval of this report.*

#### REPORT OF THE EIGHTH DISTRICT COUNCILOR

Three meetings of the District VIII Medical Society have been held since the last report.

**September 27, 1973,** The Prairie, Vermillion, S.D.

Scientific program—Virginia Johnson, M.D., Vermillion, spoke on the cytogenetic laboratory and services which are available in Vermillion.

Dr. T. H. Sattler made his official presidential visitation and spoke on the four year degree granting medical school proposal in South Dakota, as well as PSRO. Mr. Robert Johnson, executive secretary, spoke on the new Association headquarters building, the medical school proposal and other subjects of current interest.

The District voted to donate \$1,500 to the Citizens Committee for Medical Advancement in South Dakota. Manuel Ramos, M.D. of Scotland, was voted into membership.

**December 6, 1973,** The Kochi Motel, Yankton, S.D.

Scientific program—film on the control of asthma and use of a drug "Cromolyn Sodium". The film was sponsored by Syntex Laboratories.

Dr. Duane Reaney gave the Councilor's report. A discussion was held on community emergency medical care. The membership application of B. T. Brookman, M.D. was approved. Several new physicians in the area were introduced.

**February 28, 1974,** The Kochi Motel, Yankton, S.D.

A committee was appointed to investigate and coordinate emergency medical care in the various communities. Drs. Jay Hubner and Herbert Saloum were approved for mem-



bership. A report was given on Diabetic Detection Week. A motion was made and carried directing the District Society to submit a resolution to the 1974 annual meeting regarding refusal to participate in PSRO. Officers for 1974 were elected.

Athletic physical examinations, mass blood pressure screening programs, and the nominations for awards to be presented at the annual meeting were also discussed.

Respectfully submitted,

Duane Reaney, M.D.

Councilor, Eighth District

*The Reference Committee reviewed the report of the Councilor from the Eighth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE NINTH DISTRICT COUNCILOR

Officers of the Ninth District for 1974 are:

President: J. A. Kovarik, M.D., Rapid City  
Vice President: Helen Jane Hare, M.D., Rapid City  
Secretary-Treasurer: A. J. Barrett, M.D., Rapid City  
Councilors: R. H. Harris, M.D., Rapid City

J. N. Hamm, M.D., Sturgis  
Alternate: A. J. Barrett, M.D., Rapid City  
Councilors: T. E. Mead, M.D., Spearfish  
Delegates to: Drs. Javurek, Langenfeld,  
1974 Meeting: Dewald and Mattson  
Alternate: Drs. Bloemendaal, Golliher,  
Delegates: Barrett and Harris

The Ninth District Medical Society meets bi-monthly. This year all of the meetings were in Rapid City, and included wives and dinner.

On October 9, 1973, Dr. T. H. Sattler made his presidential visitation and discussed various aspects of PSRO planning and the South Dakota Medical School's plans and needs. Mr. Robert Johnson, our executive secretary, discussed among many items, the State Association building program planning, the new system of dues billing through the state office, and various pertinent supported and non-supported state legislative bills and matters. The Ninth District gave unanimous approval to the establishment of a degree-granting medical school for South Dakota. A member of the United Ostomy Association spoke on the meaning of being an ostomate and outlined some of their association's programs.

The December, 1973, meeting was exclusively reserved for a presentation by Dr. Karl Wegner and other members of the medical school staff outlining the needs, reasons, and problems relating to the establishment of a degree granting medical school. This meeting was also attended by legislators Gramm of Sturgis and Mortimer of Belle Fourche as well as a member of the legislative committee researching medical education for South Dakota. They each spoke briefly giving some advice to physicians as to everyday working problems of the legislature.

The February 14, 1974, meeting was devoted primarily to the nomination of two new councilors and alternates as well as discussion on action being planned or undertaken by Western Health Systems, Inc. The district was asked to declare its non-opposition to a rural health care study that may be undertaken by some federal group under the guidance of the Rapid City Medical Center. The district members present voiced no objection.

At the April 11, 1974, meeting usual business matters were quickly dispatched and Dr. Ferrell of Rapid City presented a paper on reconstructive and elective plastic surgery. Dr. Elston also discussed a program being introduced into the area covering maternal and child health care.

Attendance at our meetings has been less than good. On two of the dates, October and February, severe snowstorms restricted attendance from cities outside of Rapid City. I am sorry that the October meeting was also the time of our President's and Executive Secretary's visit.

For this year all of our meetings will be at the Arrow-

head Country Club. The dates remaining for 1974 are September 12, October 8, and December 12.

Respectfully submitted,

T. E. Mead, M.D.

Councilor

Ninth District Medical Society

*The Reference Committee reviewed the report of the Councilor from the Ninth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE TENTH DISTRICT COUNCILOR

The Tenth District became more active in the field of continuing medical education with visiting professors from the Creighton University School of Medicine from the Departments of Internal Medicine, Cardiology, Surgery and Pathology.

An active program of continued education was carried out with greater emphasis on participation; and continued education has been placed and accepted well within the district. Plans for continuing this program in the future are being contemplated.

Respectfully submitted,

R. G. Nemer, M.D.

Councilor, Tenth District

*The Reference Committee reviewed the report of the Councilor from the Tenth District Medical Society and recommends the approval of this report.*

#### REPORT OF THE ELEVENTH DISTRICT COUNCILOR

The Northwest District invited the Council for the Spring meeting, April 19 and 20, at the Land of Gall Resort on the Fort Yates Indian Reservation, to discuss Indian Health problems in South Dakota. The purpose is to get the Council and the State Medical Association better informed on the health delivery problems on the reservation.

President T. H. Sattler made the annual President's visit in January. This meeting was quite informative to our district.

It is also noted that our surrounding medical districts have been holding more medical education type meetings where members of our district have been personally invited to attend. Our district appreciates this very much. We hope this continues in the future.

Respectfully submitted,

J. E. Ryan, M.D.

Councilor, Eleventh District

*The Reference Committee reviewed the report of the Councilor from the Eleventh District Medical Society and recommends the approval of this report.*

#### REPORT OF THE TWELFTH DISTRICT COUNCILOR

1) The Whetstone Valley District Medical Society met on October 3, 1973, at Milbank, S.D., with Dr. Ted Sattler, president of the State Medical Association, present on an official visit.

2) On February 13, 1974, the Whetstone Valley District Medical Society met in Webster and a professional presentation was given by Dr. Richard Winklemann, Department of Dermatology, Mayo Clinic. He discussed common dermatological problems in medical practice.

Election of officers of 1974-75 was also held.

3) The next meeting of the Whetstone Valley District Medical Society is scheduled for May 8, 1974, at Sisseton or Rosholt, the subject to be announced.

Respectfully submitted,

Eldon Bell, M.D.

Councilor, Twelfth District

*The Reference Committee reviewed the report of the Councilor from the Twelfth District Medical Society and recommends the approval of this report.*

#### REPORT OF COMMISSION ON MEDICAL SERVICE

The Commission on Medical Service held its first meet-

ing on September 8, 1973, in Sioux Falls, with ten members present. At this meeting a proposed drug program under Title XIX was reviewed and the concept of a state administered drug prescription program was recommended to the Council. A gathering of material was initiated concerning the health care programs at the institutions of higher education in South Dakota.

Consideration and lengthy discussion was given to the possibility of Blue Shield coverage for cytogenetic analysis in this state. Inasmuch as the program appears to be adequately covered by other agencies, such as the Crippled Children's Program, it was recommended to the Council that this coverage not be included in the standard Blue Shield contracts.

It was also recommended to the Council at this meeting that separate charges for office and clinic, minor surgery room, tray and supplies not be covered under Blue Shield, as such charges should be included in the regular total charge by the physician.

Discussion was conducted on the request that Blue Shield pay a surgical assistant's fee to a Medex. After considerable discussion by the Commission and also by the Blue Shield staff, it was noted that according to law, payment can be made for these services only to an M.D. or a D.O. This concept was then recommended to the Council that Blue Shield continue their present policy of paying surgical assistant's fees only to M.D.'s and D.O.'s.

A report from the subcommittee on sports medicine was reviewed and extensively discussed, concerning physical examination for high school students participating in sports. A revised program was recommended to the Council. At this meeting, it was also recommended that the executive office investigate the possibility of reserving spots at proposed workshops for new physicians, which are presented by the A.M.A.

An extensive report from the MUHS Pilot Program Evaluation was reviewed and accepted.

The second Commission meeting was held in Sioux Falls on Saturday, March 23rd with eight members present. The guidelines for high school athletic examinations as adopted by the Council were reviewed and also the student health care programs at the schools of higher education. There was a discussion concerning the proposals repeatedly submitted to the South Dakota High School Activities Association, which chose to allow chiropractors to perform athletic physicals. This was again rejected this year. Commission members and also all physicians are urged to talk with their school superintendents, principals and coaches, to encourage them to reject this proposal again if it is resubmitted in the future.

A discussion was also conducted on the concept of Novocaine injections of sprained joints of high school students. The Commission recommended to the Council that a resolution be sent to the South Dakota High School Activities Association stating that this is considered an improper form of medical treatment for high school athletes when it is used to enable an athlete to participate further in athletic competition immediately. Recommendations were made for appointment to the State Medical Association Committee on Rural Health.

A proposed x-ray questionnaire concerning x-ray equipment in physician's offices and clinics to be sent out by the State Department of Health was reviewed and certain recommendations were made for its revision. The kidney disease treatment program of Medicare was reviewed and commented upon by Dr. Hayes.

Dr. Joseph Welty of the Department of Physiology, the University of South Dakota Medical School, discussed continuing medical education programs and there were some reactions to this from one area in the state as to the actual conduct of the local program. The Commission recommended that all future programs be referred to the Commission

on Medical Service prior to the establishment of such programs and that local physicians should be invited to participate.

The Commission further recommended to the Council that the State Medical Association urge non-discriminatory coverage of diagnostic procedures, wherever they may be provided, be it in a physician's office, x-ray clinic, or out-patient department of the hospital.

The commission chairman as rural health chairman for South Dakota, intends to attend the National Conference on Rural Health in Detroit on April 24, 25, and 26.

Respectfully submitted,  
B. C. Gerber, M.D., Chairman  
Commission on Medical Service

*The Reference Committee considered the report of the Commission on Medical Service. The Reference Committee recommended that any training programs initiated by sources from outside the local medical staff or the medical district should first be submitted to the local medical community for their approval and assistance. The Reference Committee recommends the acceptance of the report of the Commission on Medical Service.*

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#### REPORT OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

The Commission on Legislation and Governmental Relations had three meetings last year. At the fall meeting, preparations were made for the upcoming legislative sessions. At that time arrangements were made to have a special meeting to be held in Pierre with the conclusion of it being a dinner to which the Appropriations Committee was invited. This was well attended by members of the South Dakota State Medical Association, and it was felt that the meeting was very successful.

In March, the spring meeting was held. The legislation affecting the Association was reviewed, and in view of the fact that the medical school bill had passed, it was felt that the year had been very successful. The Commission commended Robert Johnson and Dr. Sattler for their very great efforts on our behalf.

Respectfully submitted,  
R. G. Gere, M.D. Chairman  
Commission on Legislation

*The Reference Committee considered the report of the Commission on Legislation and Governmental Relations. The Committee notes that it was a most successful legislative year and would like to commend the Commission for its work. The Reference Committee recommends the acceptance of the report of the Commission on Legislation and Governmental Relations.*

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#### REPORT OF THE COMMISSION ON INTERNAL AFFAIRS, COMMUNICATIONS AND LIAISON

The Commission met twice during the past year, on September 8, 1973, and March 23, 1974, at the executive office in Sioux Falls.

The following members of the Medical Association have died since the last annual meeting:

James A. Nelson, M.D., Bakersfield, California, died in August, 1973.

J. J. Feehan, M.D., Rapid City, died in September, 1973.

F. J. Tobin, M.D., Mitchell, died in December, 1973.

Charles Ihle, M.D., Sioux Falls, died in December, 1973.

J. D. Alway, M.D., Sun City, died in February, 1974.

Harold L. Crane, M.D., Winsted, Connecticut, died in January, 1974.

Aladar Horthy, M.D., Kennebec, died in February, 1974.

John C. Hagin, M.D., Miller, died in March, 1974.

Following is a financial report from the Health Careers Loan Fund Program for the past year:



Balance in Savings Account		
March 1, 1973		\$1,412.00
<b>Income</b>		
Interest	\$1,073.25	
Principal	2,963.75	
CD Cashed	5,000.00	
	\$9,037.00	9,037.00
		<hr/>
		\$10,449.00
<b>Disbursements</b>		
Loans (9)	\$4,500.00	4,500.00
		<hr/>
		\$ 5,949.00
Balance in Savings Account 3-8-74		\$ 5,949.00

At the September 8, 1973, meeting representatives from South Dakota Educational TV met with the Commission. They discussed a series of programs, "The Killers", to be produced by national educational television and followed by local programs produced by South Dakota's educational television. They requested financial support for the five programs which will cost approximately \$5,000 to produce and the appointment of physician advisors to be used as consultants in producing each of the five local programs. The Commission directed Dr. Barlow to contact the various specialty associations, such as the Heart Association and the Cancer Association, to select an individual to review the national program pertaining to this field and act in an advisory capacity to the local TV production. The Commission recommended to the Council that the State Medical Association contribute \$500 to local educational TV for production of these programs.

The Commission reviewed a letter regarding the RMP Dial-a-Tape Service. The Commission regretfully noted the discontinuance of the free Dial-a-Tape Service for South Dakota physicians.

The Commission considered the recommendation of the Budget and Audit Committee to charge Association members a \$5 subscription fee for the SOUTH DAKOTA JOURNAL OF MEDICINE. The Commission recommended to the Council that this subscription charge not be instituted at this time.

The Commission recommended to the Council that the following statement of policy be adopted by the South Dakota State Medical Association and distributed to the membership:

#### **Statement on Respiratory Therapy**

**Be it Resolved**, that the South Dakota State Medical Association encourage all physicians to utilize the services of a qualified registered respiratory therapist, when available, and

**Be It Further Resolved**, that the District Medical Societies be encouraged to devote a portion of their scientific program once each year to acquaint themselves with recent advances in respiratory therapy modalities.

The Commission met with members of the Board of Trustees of the Hospital Association to discuss problems of mutual concern, including physician membership on hospital Boards of Trustees, PSRO, Continuing Education, and Certificate of Need legislation. Some hospital administrators indicated they do have physician members on their Boards of Trustees and others indicated that their bylaws are being changed to allow physician members. It was the consensus of the Commission members that physicians should be allowed to serve on the hospitals' Board of Trustees.

With regard to PSRO, the Commission was apprised of three meetings which were held in September in Sioux Falls, Watertown, and Rapid City, for hospital Chiefs of Staffs and members of Utilization and Insurance Review Committees.

A review of the voluntary continuing medical education

program which has been established in South Dakota was given by Mr. Johnson. It was pointed out that this program will work through the Directors of Medical Education in twelve hospitals in South Dakota, one hospital in each of the twelve districts.

The Hospital Association presented several questions concerning the Certificate of Need law and requested assistance in solving these problems. The Commission recommended to the Council that two members of the Medical Association be appointed to serve on a study group to determine what changes, if any, are necessary in the Certificate of Need law.

The Hospital Association indicated interest in the four year degree-granting medical school proposal and indicated that Dr. Karl Wegner would be invited to speak at their state convention on this subject.

At the March 23, 1974, meeting, Mr. Robert Johnson discussed the financial picture of the Association and reviewed budget items which are affected by inflation. Mr. Johnson also presented information to the Commission members on the financial situation of the SOUTH DAKOTA JOURNAL OF MEDICINE and discussed the future potential for advertising income. An in-depth discussion followed on the fiscal policies of the Association and how the Association can continue to provide services to the membership on the present income. \*Dr. Amundson moved that the Commission recommend to the Council that in light of the increased cost already experienced in operating the Association and in light of the further anticipated increased costs in the areas of Physician Travel, Postage, Supplies, Telephone, Staff Travel, Journal of Medicine, Salary and Social Security, that a \$50 annual dues increase be proposed to the House of Delegates at the 1974 annual meeting, to become effective January 1, 1976. The Commission also recommended that an extensive educational program be carried out so the membership can be fully informed regarding Association expenditures and the need for the dues increase.\*

The Commission also recommended to the Council that the Association continue to publish the SOUTH DAKOTA JOURNAL OF MEDICINE; that the Association fund any deficit incurred in the foreseeable future; and that the Journal be provided to the membership as a benefit of Association membership.

The Commission recommended approval of a proposal by the South Dakota Chapter of the American Academy of Family Physicians to purchase space in the SOUTH DAKOTA JOURNAL OF MEDICINE to use as a newsletter.

The Commission discussed several suggestions of initials which would denote a physician's assistant inasmuch as South Dakota law prohibits the use of the initials P.A. by anyone other than an accountant. The Commission made several recommendations and suggested they be forwarded to the South Dakota State Board of Medical and Osteopathic Examiners inasmuch as they are responsible for the administration of the Physician's Assistant law.

A letter from the South Dakota Public Television Network regarding the "Killers" health series was reviewed for the information of the commission members.

Dr. Van Demark reported to the Commission on the work that has been done to attempt to set up a medical-legal panel to review possible malpractice situations. He indicated that discussions will be continued in this area, but no final recommendations have been formulated as yet.

The Commission discussed the Certificate of Need law and received an interim report that a meeting will be held later in March to review the legislation.

Representatives of the South Dakota Pharmaceutical Association met with the Commission and discussed problems which have been encountered in South Dakota in relationships between physicians and pharmacists. The fol-

lowing points were discussed:

1. Physician writing more than one prescription on one blank.
2. Nurses calling the original prescription to the pharmacy.
3. Requests to refill prescriptions from the original bottle.
4. Physicians not including refill instructions on original prescription.
5. Physicians allowing nurses to authorize refills by phone.
6. Free choice of pharmacy by physician to patient.

The Commission recommended to the Council that these points be discussed in each District Medical Society so the problems can be handled on a local level where indicated.

The Budget and Audit Committee was appointed from the Commission and the proposed budget for 1974-75 is attached. This budget has been approved by the Commission and the Council.

Respectfully submitted,  
John F. Barlow, M.D., Chairman  
Commission on Internal Affairs,  
Communications and Liaison

\*The Council at its April 19 meeting did not accept this portion of the report and recommended that the financial status of the Association be reviewed in depth by the Budget and Audit Committee and recommendations from the Budget and Audit Committee be submitted to the Council for further review.

#### **SOUTH DAKOTA STATE MEDICAL ASSOCIATION**

##### **Proposed Budget 1974-1975**

###### **INCOME**

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
State Dues	\$57,000.00	\$57,000.00
Annual Meeting	9,200.00	9,500.00
Refunds & Misc.	2,080.00	2,000.00
Car Reimbursement	250.00	250.00
Admin. Reimburse.*	2,340.00	11,540.00
	<u>\$70,870.00</u>	<u>\$80,290.00</u>

###### **EXPENSES**

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
Salary, Executive	9,600.00	\$13,200.00
Salary, Other	12,600.00	18,600.00
Social Security	1,300.00	1,500.00
Legal & Audit	3,500.00	3,500.00
Telephone	1,600.00	1,600.00
Office Supplies	2,500.00	2,500.00
Dues & Subscriptions	750.00	500.00
Physician Travel	4,000.00	4,000.00
Annual Meeting	8,000.00	9,000.00
Public Relations	4,500.00	4,000.00
Rent	3,000.00	3,000.00
Postage	3,000.00	3,000.00
Miscellaneous	100.00	100.00
Legislative Expense	2,000.00	2,300.00
Med. School Endow.	200.00	200.00
Car Expense	1,200.00	1,200.00
Staff Travel	5,000.00	5,000.00
Insurance	300.00	700.00
Employment Tax	50.00	100.00
Employee Relations	4,600.00	4,600.00
Taxes	200.00	200.00
Auxiliary Newsletter	700.00	700.00
Clinical Pathology	200.00	
	<u>68,900.00</u>	<u>\$79,500.00</u>
Reserve	1,970.00	790.00
	<u>\$70,870.00</u>	<u>\$80,290.00</u>

\*\$3,600 Endowment  
1,440 Board of Examiners  
900 Journal of Medicine  
5,600 Foundation

#### **SOUTH DAKOTA JOURNAL OF MEDICINE PROPOSED BUDGET 1974-75**

###### **INCOME**

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
Advertising	\$15,000.00	\$15,000.00
Subscriptions	600.00	600.00
Miscellaneous	600.00	600.00
Refunds	800.00	800.00
	<u>\$17,000.00</u>	<u>\$17,000.00</u>

###### **EXPENSES**

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
Salary, Editor	\$ 720.00	\$ 720.00
Salary, Staff	2,400.00	2,400.00
Legal & Audit	100.00	100.00
Social Security	90.00	100.00
Telephone	100.00	100.00
Office Supplies	12,840.00	12,830.00
Postage	750.00	750.00
	<u>\$17,000.00</u>	<u>\$17,000.00</u>

#### **BUILDING FUND PROPOSED BUDGET 1974-75**

###### **INCOME\***

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
Blue Shield Rent	\$36,360.00	
Association Rent	3,000.00	\$3,000.00
Board of Exam. Rent	600.00	600.00
Interest Income		6,000.00
	<u>\$39,960.00</u>	<u>\$9,600.00</u>

###### **EXPENSES**

ITEM	BUDGETED 1973-74	PROPOSED 1974-75
Salaries, Staff & Janitor	\$ 6,300.00	\$3,000.00
Repair, Supplies & Improvements	4,000.00	600.00
Utilities	6,000.00	1,700.00
Interest	4,400.00	
Repayment of Loan	12,040.00	
Legal & Audit	800.00	800.00
Taxes & Insurance	6,420.00	3,500.00
	<u>\$39,960.00</u>	<u>\$9,600.00</u>

\*Possible additional income for Building Fund

1. Parking space rental
2. Foundation rent

*The Reference Committee considered the report of the Commission on Internal Affairs, Communications and Liaison. The Reference Committee recommended that the Commission re-evaluate the feasibility of maintaining and subsidizing the Journal of Medicine. The Committee reviewed the proposed budget and recommended that the Budget and Audit Committee be enlarged to include the Executive Committee of the State Association and the Chairman of the Commission on Internal Affairs, Communications and Liaison. The Committee also recommended that the State Association dues be increased from \$125 to \$150 annually effective for the year 1975-76. The Reference Committee recommended the acceptance of the remainder of the report of the Commission on Internal Affairs, Liaison and Communications.*

#### **REPORT OF THE COMMISSION ON SCIENTIFIC MEDICINE**

The Commission held three meetings during the past year.

The first meeting was held on September 8, 1973, in Sioux Falls. Plans for the 1974 annual meeting were discussed and the commission recommended several changes in the format for the meeting. These recommendations were accepted by the Council and the 1974 program incorporates these changes. The Commission arranged the scientific program, selecting the topics for discussion and the



speakers to be invited. The program was set up to be of interest to all physicians in South Dakota.

The second meeting was held in Sioux Falls, on October 13, at which time, final arrangements for guest speakers were discussed. Invitations to the guest speakers were issued by members of the Commission on behalf of the State Medical Association.

The third meeting was held in Sioux Falls, on March 23. Final plans for the annual meeting were reviewed. The Commission reviewed the Continuing Medical Education Program for South Dakota and the developments which have occurred since the 1973 annual meeting.

The forthcoming breast cancer screening program which will be carried out in South Dakota under the sponsorship of the South Dakota Cancer Society was discussed. This program had previously received the endorsement of the South Dakota State Medical Association.

Several other items of interest were discussed by the Commission but no specific recommendations were forwarded to the Council.

Respectfully submitted,  
H. Phil Gross, M.D.  
Chairman  
Commission on Scientific  
Medicine

*The Reference Committee considered the report of the Commission on Scientific Medicine. The Committee recommended that the section of the report pertaining to the breast cancer screening program not be accepted and that the Commission be requested to resubmit a more complete and accurate report on this subject to the Council; such report to include the original deliberations of the Commission and subsequent action taken. The Commission recommends that the balance of the report be accepted as submitted.*

#### **REPORT OF THE COMMITTEE FOR CONTINUING MEDICAL EDUCATION**

This committee had no formal meetings but frequent contacts with each other on many occasions.

During this year, the Committee has visited most of the programs and discussed the local needs with the Directors of Medical Education.

In general it can be said that Educational Programs exist in all but two locations. It is hoped that by the end of this summer, all Educational Programs are working on a fixed schedule.

The Committee has prepared an additional list of recommended programs which are suitable for the educational needs of the hospitals and each hospital now has over 50 programs available.

One member of this Committee visited the APACHE Program in San Antonio, Texas, and the Committee has received recently the report and will make recommendations regarding possible use of that program for the educational needs of South Dakota.

In the coming year, the Committee will work on the problem of up-grading local standards which will be evaluated for the assessment of the local needs of post-graduate education. The Committee will further review the standards after a retrospect of patient care audits have been conducted and these will then be forwarded to the Foundation of Medical Care for the development of PSRO standards in South Dakota. At the present time there is much confusion going on and a definite lack of information noted.

As soon as all these Educational Centers are operating a guideline will be developed for the accreditation of these programs as Category I Programs, that the goals to have recognized community hospital based post-graduate education can be reached, within another year.

Respectfully submitted,  
E. H. Heinrichs, M.D.  
Chairman

*The Committee reviewed the report of the Committee for Continuing Medical Education and recommends the acceptance of this report.*

#### **REPORT OF THE GRIEVANCE COMMITTEE**

The Committee considered several inquiries and had a few complaints. At this time, most all the problems are resolved; most problems were due to lack of communication and personality conflicts.

Respectfully submitted,  
J. A. Muggly, M.D.  
Chairman

*The Committee reviewed the report of the Grievance Committee and recommends the acceptance of this report.*

#### **REPORT OF THE STATE UTILIZATION AND INSURANCE REVIEW COMMITTEE**

This Committee held three formal meetings during the past year: October 31, 1973; December 12, 1973; and April 24, 1974. Attendance of Committee members at these meetings averaged almost 90%.

At these meetings the Committee reviewed and took action on 23 individual cases which had presented various problems. Many other items of business were also reviewed and on which action was taken. Two of these were major surveys requested and necessitated by HEW and required substantial study and time for background work review and decision by the staff and the Committee.

In addition to time spent at its meetings, many other cases required much interim time and study at home by Committee members so that suggestions for adjudication and decision could be arrived at by correspondence. This has been done to speed up settlements and to avoid additional meetings of the Committee.

The Committee would like to stress the importance of submitting properly documented claims so it can make a fair and equitable recommendation in all cases referred to it.

With PSRO on the horizon, it is imperative that all physicians maintain accurate records to document not only the type of services they have provided, but also the amount of services and the reimbursement requested for such services. By having accurate records and cooperation with the Committee in making these records available, the Committee will continue to attempt to fairly adjudicate all claims submitted to it.

On behalf of the Committee, I would like to commend the District Utilization and Insurance Review Committees for their work in reviewing the cases referred to them. Their efforts have greatly alleviated the work load of the State Committee and are very much appreciated.

The Committee would like to express its appreciation to the physicians in the state for accepting the recommendations of the Committee. Continued cooperation between individual physicians and the committees is most important in carrying on this review work.

As chairman, it is appropriate and deserved that a sincere expression of appreciation be made to the members of this Committee for their whole-hearted cooperation, unselfish expenditure of time and effort, and their conscientious and unbiased consideration of many difficult problems. The members of this Committee are Drs. E. S. Palmerston, Harvard Lewis, W. O. Rossing, Karl Kosse, E. F. Kalda, H. H. Thiessen, and Michael Rost.

Respectfully submitted,  
H. Russell Brown, M.D.  
Chairman

*The Committee reviewed the report of the State Utilization*

and Insurance Review Committee and recommends the acceptance of this report.

#### **REPORT OF SOUTH DAKOTA FOUNDATION FOR MEDICAL CARE**

In the past year, the Foundation has been incorporated and has been operational since November, 1973. The by-laws as proposed by the Foundation Committee, were accepted by the Council at the January 12, 1974 meeting. The Council has been gathering information on professional standards review organizations and its application to South Dakota.

Respectfully submitted,  
J. A. Muggly, M.D.  
Chairman

*The Committee reviewed the report of the South Dakota Foundation for Medical Care and recommends the acceptance of this report.*

#### **REPORT OF THE RELATIVE VALUE STUDY COMMITTEE**

The Relative Value Study Committee of the South Dakota Medical Association met on January 5, 1974, at Pierre, S.D. This has been the only formal meeting we have held since the previous report from this Committee. We had been waiting for the copies of the Minnesota Relative Value handbook and this study became available to us in the fall of 1973. Copies of individual sections were distributed to the members according to their specialty or subcommittees that they had been assigned. It was agreed that we would adopt the terminology and coding from the Minnesota Relative Value Study with possibly minor changes, omissions, or additions that may be necessary. It was also agreed that the subcommittee reports be in by January 25, 1974, and that the recommendation then be incorporated in the Relative Value Schedule.

To date most of these reports have been received and are being proofread and finalized by the Medical Association staff. If there are not too many corrections that have to be made, we hope to have a final report ready by the time of the State Medical Association meeting. At the present time, it appears unlikely that the final proofs will be available for the State meeting. It is also possible that a subsequent meeting of the Committee may have to be held for final adoption of the Relative Value Study.

Respectfully submitted,  
E. W. Sanderson, M.D.  
Chairman

*The Committee reviewed the report of the Relative Value Study Committee and recommends the acceptance of this report.*

#### **REPORT OF THE AD HOC COMMITTEE APPOINTED BY THE COUNCIL TO SUBMIT RECOMMENDATIONS REGARDING AN EARLY PERIODIC SCREENING DIAGNOSIS AND TREATMENT PROGRAM**

Pursuant to the request of the Council of the South Dakota State Medical Association, a committee of physicians (Dr. W. Anderson, Dr. G. Tracy, and Dr. E. H. Heinrichs) had several meetings with Mr. E. Schumacher from the South Dakota Department of Public Welfare regarding an early periodic screening diagnosis and treatment program for the Title XIX children in South Dakota (EPSDT-Program).

The enclosed report is our final report and we urge you to accept this program. The final report contains the following enclosures:

- a) Recommendations on certain points of the programs
- b) A cost proposal
- c) A plan on Periodicity
- d) Memorandum of Understanding

Our committee believes that this program is simple enough, scientifically sound, within the reach of the manpower of South Dakota and economically sound and feasible.

The Committee felt that it was not in the scope of this Committee to negotiate any contract. However, the Committee feels that the proposed Memorandum of Understanding should be submitted to the House of Delegates for final approval.

Respectfully submitted,  
E. H. Heinrichs, M.D.  
Recorder for the Committee

#### **RECOMMENDATIONS**

1. All physical examinations should be done by a physician or Physicians Assistant. Discussion of results and counseling are to be included at each visit.

If a Physician's Assistant (Pediatric Nurse Associate, etc.) is employed by a physician, provided the Physician's Assistant is duly licensed according to the laws of the State of South Dakota, then the Physician's Assistant can do every second screening examination provided:

- a) abnormal findings are counter-signed by the physician, and,
  - b) the examinations are done in the office(s) of the physician (or under the direct and personal supervision of the physician when done elsewhere, and,
  - c) the payment request is signed also by the physician.
2. Examinations should be done at the indicated time range if at all possible. Exceptions can be made by the authorizing agent.

Initiation of the screening examination may come upon request of the authorizing agent, the patient or the physician. In the latter two instances authorization will be obtained afterwards.

3. A committee of the South Dakota Chapter of the American Academy of Pediatrics will monitor the utilization and decide on disagreements between providers and the EPSDT-Program, as well as make recommendations for changes of the Program.

4. If a child comes under the care of the EPSDT-Program for the first time at any point of the schedule and/or if any items are not accomplished at the suggested age, only the scheduled future physical examinations will be allowed, however, the immunizations schedule should be brought up-to-date at the earliest possible time. Expenses for this are automatically allowed.

5. If a child has received a screening examination in Group B and C and is in need within 1 year after of a certificate of examination for other purposes (eg. Headstart, pre-school examination, Boys and Girls State, Boys and Girls Scout, Church camp, college entry examination and vocational-technical entry examinations) then the EPSDT-Program examination under the date performed should be copied or transcribed for that purpose without charge to the patient.

6. School athletic examinations are the responsibility of the respective school authorities. It is hoped that a copy of the EPSDT-examination will be recognized as a satisfactory examination for this purpose up to one year after the date of examination.

7. Immunizations and tests done through other programs (eg. school immunization programs, TB screening, etc.) will be disallowed for payment by the EPSDT-Program.

8. Testing for TB is the subcutaneous injection of 0.1 ml. PPD containing 5 Tuberculin units. It should not be done in the first 6 months after a natural infection with rubeola or rubeola vaccination. Because of the prevalence of tuberculosis in Indian children, these may be tested at all visits in Group B and C.

A negative Tine test will be accepted in place of a PPD-testing. A positive Tine test will not be accepted. This is no



proof of previous tuberculosis infection and must be substantiated with PPD testing.

9. Because of the small number of black children outside of the military installations and qualified for this program no testing for Sickle Cell disease is included. However, the SDPW Department will notify the physician during the examination A6 and/or A7 to cause this test to be performed.

A formal screening for lead poisoning appears unfeasible in South Dakota at this time due to the lack of appropriate methods and low morbidity. However, on each identified anemia case (below 10.0 gram hemoglobin) the work-up will include the investigation for possible lead intoxication.

10. A dental examination (screening with fluoridation if necessary) by a dentist will be performed at 4 years (3-5 years) and should be encouraged at that time by the examining physician. Abnormalities and diseased teeth should be noted and reported at each visit and be directed to a participating dentist or referred by the EPSDT-Program to a dentist.

11. The South Dakota Department of Public Welfare will underwrite a program to publicize and explain this program to the participating physicians. At present a booklet is planned.

12. The program has two levels of requirements:

- a) Obligatory: These requirements have to be performed in order to receive payment, unless extenuating circumstances exist.
- b) Optional: These are requirements which may be performed at the option of the physician. If performed they will be paid. Non-performance of optional requirements will not endanger payments for the obligatory tasks.

13. The South Dakota Department of Public Welfare will

operate a system by which abnormal findings are recognized and will, in consultation with the consultants to the EPSDT-Program cause follow-up examinations.

14. The confidentiality of the obtained data will be protected very carefully. Unauthorized persons will have no access to it.

Bona fide research projects will be screened and reviewed by a Committee consisting of members of the Department of Social Services, Division of Social Welfare, the South Dakota Chapter of the American Academy of Pediatrics and the Department of Pediatrics of the South Dakota School of Medicine. The Chairman of the Department of Pediatrics will serve as the Chairman of this ad hoc Committee.

15. Any patient who enters this screening program for the first time at any other point or examination than a 1 (one) will be asked to fill out a history sheet.

#### Proposed Costs for the EPSDT-Program

Since the examinations in this program are completely different to what is presently known in the Relative Value Schedule and since the requirements for this program are higher than what is presently practiced by most of the physicians in the state, it is proposed to abandon the unit value as such, but to set a fee of \$8.00 for the examination, except for the post-high school examination which would be \$12.00.

Aside from this, \$3.00 are allowed for doing the necessary paperwork (filling out the forms, bookkeeping and postage, etc.).

If optional examinations are done (assessment of mental and motor development) an extra fee of \$2.00 will be paid.

The laboratory work, immunizations, etc., will be paid as the profile of the individual physician indicates.

### EPSDT - PROGRAM SCHEDULE FOR SOUTH DAKOTA

	GROUP A.							GROUP B.					GROUP C.	
	1. 4 wks.	2. 10 wks.	3. 16 wks.	4. 22 wks.	5. 9 mos.	6. 12 mos.	7. 18 mos.	1. 3 Y.	2. 4 Y.	3. 5 Y.	4. 8 Y.	5. 11 Y.	1. pre- High	2. post- School
History or Interral Hx.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Physical Examination	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Height and Weight	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Head Circumference	X	X	X	X		X								
Blood Pressure								X	X	X	X	X	X	X
Developmental appraisal	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	X	X
Vision and Hearing										opt.	opt.			X
Dental screening, fluoridation								X						
DPT (Dt)		X	opt.	X			X			X			X	opt.
Oral trivalent polio		X	opt.	X			X			X				opt.
TB testing							X			X		X		X
Hgb. or Hct.							opt.	opt.		opt.		opt.	opt.	X
UA								opt.		opt.	X	X		X
PKU	X													
Rubeola						X								
Rubella, Mumps						opt.				must be completed.				

### Periodicity

Group A (from birth to 2 years of age):

	Visit at:	Range:
A1:	4 weeks	2-7 weeks
A2:	10 weeks	7-13 weeks
A3:	16 weeks	13-19 weeks
A4:	22 weeks	19-25 weeks
A5:	9 months	7½ - 10½ mo.
A6:	12 months	11-15 months
A7:	18-24 months	16-30 months
TOTAL:		7 visits

Group B (from 3 years to 12 years of age):

	Visit at:	Range:
B1:	3 years	
B3:	5 years	6 months before
B4:	8 years	and after the
B5:	11 years	birthday
B2:	4 years (optional)	
TOTAL:		4 (5) visits

Group C (from 13 years to 21 years of age):

C1:	14-15 years (pre-high school)	13-15 years
C2:	17-21 years (post-high school)	16-21 years
TOTAL		2 visits

### Agreement

THIS AGREEMENT, MADE AND ENTERED INTO THIS—day of —, 1974, between the State Division of Social Welfare, Department of Social Welfare, Department of Social Services, Pierre, Hughes County, South Dakota, party of the first part, hereafter called the Agency, the South Dakota State Medical Association, a nonprofit South Dakota Corporation, Minnehaha County, Sioux Falls, South Dakota, party of the second part, hereafter called the Contractor.

WHEREAS the Agency and Contractor are aware of and have investigated a program of the United States Department of Health, Education and Welfare, known as the early and periodic screening, diagnosis and treatment of eligible individuals under age twenty-one program (hereafter called the Program); and

WHEREAS the Agency seeks the support and assistance of the Contractor in implementing such a program in the State of South Dakota;

NOW, THEREFORE, the parties hereto mutually agree as follows:

#### 1. The Contractor shall:

- Assist the Agency in obtaining the services of licensed physicians regarding the implementation of early and periodic screening, diagnosis and treatment, of eligible individuals under the age of twenty one. Eligible individuals, as used in this contract shall be recipients of health care services eligible for such services under Title XIX of the Social Security Act (Medicaid).
- Assist the Agency in assuring that medical services by a physician pursuant to the Program will be accessible (that is, within a reasonable distance, considering the size of the community, from the recipient's residence) in all areas of this state.
- Assist the Agency in assuring that sufficient number of eligible recipients are screened and adequate data furnished to comply with federal regulations respecting the program, and to meet agency needs and standards.

- Actively seek to involve its membership in the program by communicating the existence of the program to its membership and by assisting the agency in recruiting physicians to provide the medical services contemplated by the program.

#### 2. The Agency shall:

- Pay contracting physicians fees based upon accepted rates as may be agreed upon from time to time between the Agency and contracting physicians.
- Provide Central Data Processing services designed to recognize abnormal findings and to provide for follow-up care and later referrals.
- Identify eligible recipients and notify them of the existence of the program of their eligibility for treatment.
- Pay contracting physicians for obligatory services and optional services performed by such physicians. Obligatory services shall be those services so designated under the plan implementing the program, consisting of fundamental examination and treatment procedures. Optional services shall be those which may be performed at the option of the physician utilizing his professional discretion based upon findings during the screening process, and the non-performance of which shall not work a forfeiture of payments due for obligatory services.
- Commence a program to publicize and explain the program to physicians in the State of South Dakota, including the preparation of a booklet setting forth the features of the plan.
- Furnish to contracting physicians all necessary reporting documents and claim forms.
- Promulgate and advise physicians of eligibility standards for applicants under this program and provide a means of identification of eligible persons under the program.

3. It is agreed that either party to this agreement may terminate or renegotiate it by giving 90 days' notice in writing to the other party.

4. The Contractor and the Agency agree to assist each other in complying with all federal and state regulations governing the early and periodic screening, diagnosis and treatment of eligible individuals under age twenty-one program, commonly known as EPSDT, of the United States Department of Health, Education and Welfare.

IN WITNESS WHEREOF the parties have executed this agreement on the date first above written.

#### AGENCY:

State Division of Social Welfare, Department of Social Services

#### CONTRACTOR:

South Dakota State Medical Association, A South Dakota Corporation

*The Committee reviewed the report of the Ad Hoc Committee on the Early Periodic Screening Diagnosis and Treatment Program. The Committee recommends that Recommendation #6, regarding school athletic examinations be amended to read as follows:*

- School athletic examinations are the responsibility of the respective school authorities. It is hoped that a copy of the EPSDT examination will be recognized as a satisfactory examination for this purpose for one school year after the date of the examination.



*The Committee recommends that the second paragraph of Recommendation #9 be amended to read as follows:*

*In each identified anemia case (below 10.0 gram hemoglobin) the workup will include possible causes of anemia.*

*The Committee recommends the adoption of this report with these changes.*

## ANNUAL MEETING

### Minutes of

#### South Dakota Medical Service, Inc. Corporate Body Meeting

Holiday Inn                      Aberdeen, South Dakota  
May 31, 1974, 9:30 a.m.

The meeting was called to order by John T. Elston, M.D., Chairman of the Board, at 9:30 a.m., Friday, May 31, 1974, pursuant to notice duly given.

Upon roll call vote the following members of the Corporate Body were present: T. H. Sattler, M.D.; R. E. Van Demark, M.D.; G. E. Tracy, M.D.; W. R. Taylor, M.D.; G. R. Martron, M.D.; C. L. Swanson, M.D.; H. R. Lewis, M.D.; Warren Jones, M.D.; Duane Reaney, M.D.; R. H. Harris, M.D.; James Ryan, M.D.; B. C. Gerber, M.D.; Irina Driver, M.D.; P. S. Nelson, M.D.; Barbara Spears, M.D.; Louis Karlen, M.D.; Richard Gunnarson, M.D.; James Shaeffer, M.D.; John Billion, M.D.; Richard Porter, M.D.; Gordon Held, M.D.; M. G. Langenfeld, M.D.; A. J. Barrett, M.D.; M. R. Cosand, M.D.; A. P. Reding, M.D.; J. B. Gregg, M.D.; R. H. Quinn, M.D.; David Seaman, M.D.; Bruce Lushbough, M.D.; Fred Leigh, M.D.; B. J. Begley, M.D.; Paul Aspaas, M.D.; J. N. Hamm, M.D.; R. G. Nemer, M.D.; Eldon Bell, M.D.; G. H. Steele, M.D.; D. N. Fedt, M.D.; Werner Klar, M.D.; David Buchanan, M.D.; R. G. Gere, M.D.; Denny Ortmeier, M.D.; Durward Lang, M.D.; T. A. Angelos, M.D.; Richard Honke, M.D.; A. J. Javurek, M.D.; W. J. Mattson, M.D.; R. D. Bloemendaal, M.D.; and E. A. Johnson, M.D.

Also present were Ex-officio non-voting Medical School Delegates:

James Cassat, Student Representative

Larry Weitzenkamp, Student Representative

The Chairman declared the Corporate Body Meeting in session.

Dr. Taylor moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published in the SOUTH DAKOTA JOURNAL OF MEDICINE. The motion was seconded by Dr. Nemer, and motion carried on voice vote.

Chairman Elston proceeded with his annual report. Dr. Elston reported that during 1973 Blue Shield was the Fiscal Intermediary, both on Federal programs and private contracts, for approximately 212,000 persons in the State of South Dakota which amounted to approximately 35% of the State's total population. This made Blue Shield the largest carrier in the State of South Dakota. The gross income of Blue Shield for 1973 was approximately \$10 million. On Blue Shield's underwritten business approximately 84¢ on the dollar was paid out in direct benefits to subscribers. 12¢ was expended for administration and approximately 4¢ was placed in reserve.

The Chairman discussed matters that were presented at the last legislative session. He discussed the results of two bills entered into the last session, one of which would have required Blue Shield to pay for chiropractic claims and the other for alcoholic treatment center care. He reported that both of these bills were disapproved by committees considering the same.

Various national health care proposals were discussed and it was noted that at this time a number of details on such program have not been agreed upon by the National Congress.

The Chairman called for consideration of the Corporate Financial Report. President Erickson referred the delegates to the handbook provided to each member of the Corporate Body. Various portions of the financial data in the handbook were discussed at length.

Discussion followed relative to investment policies of the Corporation. The investment policy of purchasing Certificates of Deposit in South Dakota banks was reviewed and Dr. C. L. Swanson suggested that the Corporation consider consolidating investments to receive a larger rate of interest. Mr. Erickson reviewed recent legislation which permitted Blue Shield to make deposits in banks over \$50,000.00. He stated that previous to July 1, 1974, this was not permitted by law. He stated that the Board at this time is considering making deposits in larger denominations to obtain a higher rate of interest.

Dr. Eldon Bell moved approval of the Financial Report. Such motion was seconded by Dr. Fred Leigh. Upon voice vote, the Financial Report was approved unanimously.

The Chairman of the Board stated that the next order of business was the election of Directors. He called for a report of the Nominating Committee. Dr. E. A. Johnson, Chairman of the Nominating Committee, reported that the Nominating Committee submitted the following names in nomination for the Directors of Blue Shield:

H. Russell Brown, M.D.—Watertown, South Dakota

P. K. Aspaas, M.D.—Dell Rapids, South Dakota

James Gormley—Rapid City, South Dakota

John Olson—Pierre, South Dakota

The Chairman called for nominations from the floor. No nominations from the floor were received.

Dr. E. A. Johnson moved approval of the names submitted by the Nominating Committee and further moved that nominations cease and the Secretary be instructed to cast a unanimous ballot for the nominees. The foregoing motion was seconded by Dr. G. E. Tracy. Upon voice vote, the motion was approved unanimously. The Secretary then cast a unanimous ballot.

The Chairman called for any item of business that any member of the Corporate Body wished to present for consideration. No further business was presented from the floor.

Dr. Denny Ortmeier moved that the meeting adjourn. Such motion was seconded by Dr. H. R. Lewis. Upon voice vote, the adjournment was approved unanimously.

John Zimmer

Secretary

## DISTINGUISHED SERVICE AWARD

Started in 1951—T. F. Riggs, M.D., Pierre  
(deceased)

1952—H. Russell Brown, M.D., Watertown

1953—Guy Van Demark, M.D., Sioux Falls  
(deceased)

1954—J. C. Ohlmacher, M.D., Vermillion  
(deceased)

1955—R. G. Mayer, M.D., Aberdeen  
(deceased)

1956—J. C. Ohlmacher, M.D., Vermillion  
(deceased)

1957—W. E. Donahoe, M.D., Sioux Falls

1958—Drs. J. C. Hagin (deceased), M. W. Pangburn (deceased), and James DeGeest, Miller

1958—J. F. Brenckle, M.D., Superior Wisc.  
(deceased)

1958—Mrs. Agnes Holdridge, Madison

1959—Walter L. Hard, Ph.D., Vermillion  
 1959—Rev. and Mrs. Robert O. Bates, Sturgis  
 1959—R. M. Kilgard, M.D., Watertown  
 (deceased)  
 1960—L. J. Pankow, M.D., Sioux Falls  
 (deceased)  
 1961—Gregg M. Evans, Ph.D., Custer  
 1962—Edwin Shaw, Ph.D., Vermillion  
 1963—Arthur A. Lampert, M.D., Rapid City  
 1964—John C. Foster, Phoenix, Arizona  
 1965—A. P. Reding, M.D., Marion  
 1966—Mrs. C. Rodney Stoltz, Watertown  
 1967—Mrs. William Fish, Watertown  
 1968—G. J. Bloemendaal, M.D., Ipswich  
 1969—F. W. Haas, M.D., Yankton (deceased)  
 1970—Paul Bunker, M.D., Aberdeen (deceased)  
 1971—E. T. Lietzke, M.D., Beresford (deceased)  
 1972—C. B. McVay, M.D., Yankton  
 1973—G. E. Tracy, M.D., Watertown  
 1974—J. A. Muggly, M.D., Madison

#### COMMUNITY SERVICE AWARD

1961—R. A. Buchanan, M.D., Huron  
 1962—Roland F. Hubner, M.D., Yankton  
 1963—George W. Mills, M.D., Wall (deceased)  
 1964—John C. Hagin, M.D., Miller (deceased)  
 1965—Alonzo P. Peeke, M.D., Volga  
 1966—Hugo C. Andre, M.D., Vermillion (deceased)  
 1967—G. Robert Bartron, M.D., Watertown  
 1968—M. M. Morrissey, M.D., Pierre  
 1969—N. J. Sundet, M.D., Kadoka (deceased)  
 1970—W. H. Saxton, M.D., Huron  
 1971—R. E. Van Demark, M.D., Sioux Falls  
 1972—R. H. Hayes, M.D., Pierre  
 1973—B. F. King, M.D., Aberdeen (deceased)  
 1974—M. C. Tank, M.D., Brookings

#### AESCULAPIUS AWARD

1966—Paul R. Leon, M.D.  
 Walter Miller, M.D., Aberdeen  
 1968—H. Phil Gross, M.D., Sioux Falls

#### FIFTY YEAR CLUB MEMBERS

C. V. Auld, Plankinton (deceased)  
 R. A. Buchanan, M.D., Huron  
 Myrtle Carney, M.D., Ft. Worth, Texas  
 J. C. Clark, M.D., Sioux Falls (deceased)  
 F. L. Class, M.D., Huron (deceased)  
 M. E. Cogswell, M.D., Wolsey (deceased)  
 J. Cook, M.D., Bonesteel (deceased)  
 Harold L. Crane, M.D., Avon, Conn. (deceased)  
 S. A. Donahoe, M.D., Sioux Falls (deceased)  
 W. E. Donahoe, M.D., Sioux Falls

V. W. Embree, M.D., Pierre (deceased)  
 W. D. Farrell, M.D., Aberdeen (deceased)  
 R. B. Fleeger, M.D., Lead (deceased)  
 R. R. Fisk, M.D., Flandreau (deceased)  
 F. W. Freyberg, M.D., Mitchell  
 E. E. Gage, M.D., Sioux Falls (deceased)  
 D. A. Gregory, M.D., Milbank  
 E. H. Grove, M.D., Arlington (deceased)  
 J. C. Hagin, M.D., Miller (deceased)  
 Lyle Hare, M.D., Spearfish  
 J. A. Hohf, M.D., Yankton (deceased)  
 F. S. Howe, M.D., Deadwood (deceased)  
 A. H. Hoyne, M.D., Salem (deceased)  
 A. S. Jackson, M.D., Rapid City (deceased)  
 R. J. Jackson, M.D., Hot Springs (deceased)  
 J. A. Jacotel, M.D., Milbank (deceased)  
 G. T. Jordan, M.D., Vermillion (deceased)  
 F. F. Keene, M.D., Wessington Springs (deceased)  
 J. H. Lloyd, M.D., Mitchell  
 P. V. McCarthy, M.D., Aberdeen  
 G. W. Mills, M.D., Wall (deceased)  
 B. C. Murdy, M.D., Aberdeen (deceased)  
 T. F. O'Toole, M.D., Rapid City  
 N. T. Owen, M.D., Rapid City (deceased)  
 L. L. Parke, M.D., Canton (deceased)  
 M. O. Pemberton, M.D., Deadwood (deceased)  
 R. J. Quinn, M.D., Sioux Falls (deceased)  
 F. J. Radusch, M.D., California  
 T. B. Ranney, M.D., Aberdeen (deceased)  
 T. F. Riggs, M.D., Pierre (deceased)  
 W. H. Saxton, M.D., Huron  
 H. L. Saylor, M.D., Huron (deceased)  
 C. E. Sherwood, M.D., Madison  
 F. J. Tobin, M.D., Mitchell (deceased)  
 J. S. Tschetter, M.D., Huron  
 F. W. Valkenaar, M.D., Chancellor (deceased)  
 G. E. Van Demark, M.D., Sioux Falls (deceased)  
 H. P. Volin, M.D., Lennox (deceased)  
 C. H. Weishaar, M.D., Aberdeen (deceased)  
 J. R. Westaby, M.D., Madison  
 G. E. Zimmerman, M.D., Missoula, Montana  
 (deceased)

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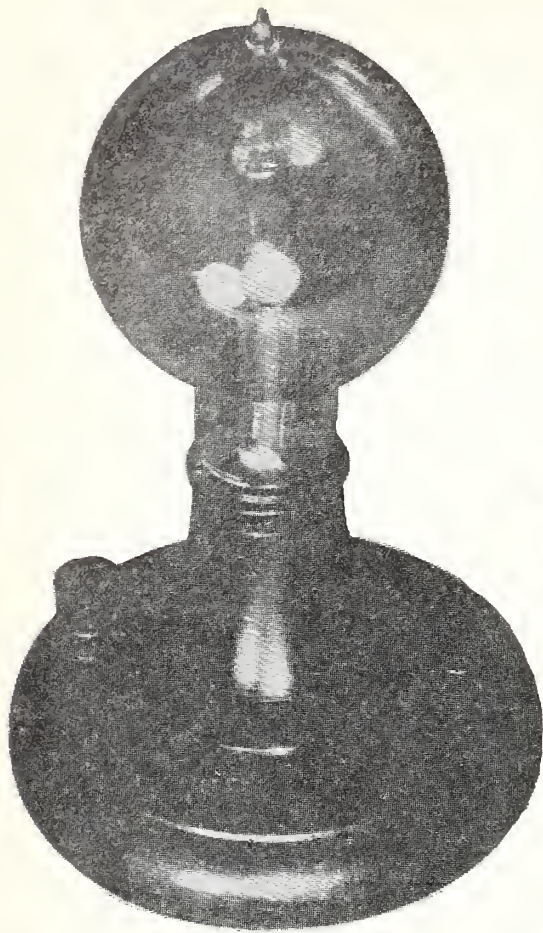
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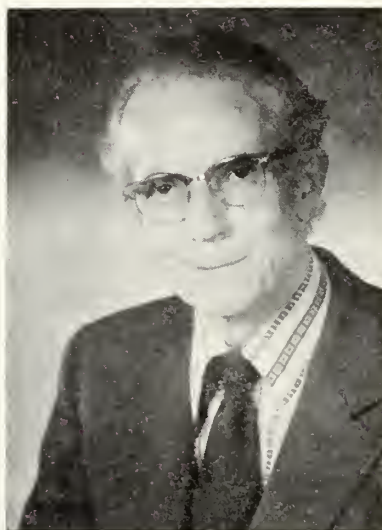
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# P R E S I D E N T ' S P A G E



The AMA's 123rd annual convention in Chicago faced many issues, but none more controversial than PSRO on which four reports and 25 resolutions came before the House of Delegates. Many state delegations came to the convention committed to vote for its repeal.

Since the legislation providing for PSROs was passed two years ago, the medical profession has been divided over the government's proposed involvement in peer review.

Under the PSROs, groups of doctors check on the quality and costs of medical care provided by other doctors to patients in federally supported programs such as Medicare and Medicaid.

The House of Delegates adopted a reference committee substitute resolution, instructing the Board of Trustees of the AMA to work for constructive amendments to the PSRO law, with particular reference to the present potential dangers in the areas of authority of the secretary of HEW, confidentiality of patients' records, malpractice, the development of norms, and quality of care. If later evaluation of the PSRO program reveals that it does, in fact, adversely affect the quality of patient care, or conflict with Association policy, the Board of Trustees are instructed to use all legal and legislative means to rectify these shortcomings. The House of Delegates voted overwhelmingly to support this program.

In South Dakota the foresight and the extensive efforts of Dr. Joe Muggly and his group in organizing and incorporating our Foundation are commendable. Adoption of the Foundation to this particular problem will be its first real test and it deserves the undivided support of our state organization.

Sincerely,  
Robert E. Van Demark, M.D.  
President  
South Dakota  
State Medical Association

# 1974 PRECEPTORS

The following is a list of sophomore medical students from the University of South Dakota Medical School and their preceptorship assignments. These assignments were for a four-week period beginning on April 22, 1974.

James L. Austin	Dr. Theodore Hohm, Tschetter-Hohm Clinic, Huron, SD 57350
Robert Bayer	Dr. Jack Berry, Mitchell Clinic, Mitchell, SD 57301
John Booth	Dr. Leonard Linde, Mobridge Clinic, Mobridge, SD 57601
Theodore C. Brooks	Dr. Michael Singaas, PHS Hospital, Pine Ridge, SD 57770
Howard Burns	Dr. David Buchanan, 707 Dakota Ave., S., Huron, SD 57350
Edward Clark	Dr. Charles Monson, Parkston, SD 57366
David Crawford	Dr. Lloyd Vogelgesang, Box 460, Webster, SD 57274
Elizabeth Danforth	Dr. Paul Dzintars, 717 St. Francis, Rapid City, SD 57701
Mike Delaney	Dr. LeRoy Askwig, Pierre Clinic, Pierre, SD 57501
Thomas Devine	Dr. Ed A. Johnson, Milbank, SD 57252
Phil Doescher	Dr. Kenneth Muckala, Medical Clinic, Vermillion, SD 57069
Charlotta Eaton	Dr. Mary E. Sanders, 1200 South Main, Aberdeen, SD 57401
Richard Ehlers, Jr.	Dr. William Rossing, 1200 South Euclid, Sioux Falls, SD 57105
Thomas Evans	Dr. Gary Welsh, 235 Third St., Lead, SD 57754
Roger Fincher	Dr. Cliff Binder, Chamberlain, SD 57325
Michael Flynn	Dr. A. J. Tieszen, 772 East Dakota, Pierre, SD 57501
Leon Green	Dr. Charles Loos, 717 St. Francis, Rapid City, SD 57701
Dale E. Gunderson	Dr. Gerald Tracy, Brown Clinic, Watertown, SD 57201
Fred Harris	Dr. A. C. Vogeles, 1200 South Main, Aberdeen, SD 57401
Lance Hinthner	Dr. Lonnie Waltner, Box 135, Bridgewater, SD 57319
V. J. Hirsch	Dr. Jay Hubner, Medical Clinic, Yankton, SD 57078
Byron Hohm	Dr. John S. Devick, Colton, SD 57018
Dale Hogen	Dr. Dale Bergeron, P.O. Box 1991, Rapid City, SD 57701
Sandy Honke	Dr. William Janss, 1836 W. Kansas City St., Rapid City, SD 57701
Beth Johnson	Dr. Carlos Kemper, Viborg, SD 57070
Larry Johnson	Dr. Paul Aspaas, Dell Rapids, SD 57022
Daniel Kangley	Dr. Neil Elkjer, 1200 South Seventh, Sioux Falls, SD 57105
Steven Larson	Dr. A. Clark Hyden, 401 Home Federal Bldg., Sioux City, IA 51101
Lee Mabee, Jr.	Dr. Vincent Cutshall, 1505 S. Minnesota, Sioux Falls, SD 57105
Ira Meiburger	Dr. Harold Lowe, Custer, SD 57730
Vaughn Meyer	Dr. Maynard Porter, Parkston, SD 57366
William Michels	Dr. Joe Hamm, Sturgis, SD 57785
Richard A. Nelson	Dr. J. A. Muggly, Madison Clinic, Madison, SD 57042
John Norbeck	Drs. Walton and Friess, 1621 S. Minnesota, Sioux Falls, SD 57105
James A. Oakland	Dr. Loren Amundson, 1505 S. Minnesota, Sioux Falls, SD 57105
Michael L. Olson	Dr. Fred Leigh, Huron Clinic, Huron, SD 57350
Timothy Olson	Drs. Bell & Karlen, DeSmet, SD 57321
Thomas Olson	Dr. Lowell Swisher, Kadoka, SD 57543
Anita O'Neil	Dr. Raymond Nemer, Gregory, SD 57533
Gregg O'Neil	Dr. Stuart Leafstedt, 2918 Hamilton, Sioux City, IA 51101
David Patterson	Dr. B. C. Gerber, 310 8th Avenue, N.W., Aberdeen, SD 57401
Craig Peterson	Dr. Carroll Clark, Bartron Clinic, Watertown, SD 57201
John Piersma	Dr. James Ryan, Mobridge Clinic, Mobridge, SD 57601
Linda Pontius	Dr. Charles Johnson, Lemmon, SD 57638
Bruce Ramsdell	Dr. Charles Roberts, Brookings Clinic, Brookings, SD 57006
James Reimer	Dr. G. Robert Bartron, Bartron Clinic, Watertown, SD 57201
Joe Remillard	Dr. Robert Foley, Tyndall, SD 57066
Mary Helen Riechers	Dr. Mario Herrera, 211 Medical Arts Bldg., Aberdeen, SD 57401
Barry Rockler	Dr. William Jones, Sturgis, SD 57785
Ann Sattler	Dr. Charles Allen, PHS Hospital, Rosebud, SD 57570
Robert Schaaf	Dr. Melford Lyso, Medical Clinic, Yankton, SD 57078
Craig Shoemaker	Dr. Charles Allen, PHS Hospital, Rosebud, SD 57570
Nancy Schuette	Dr. Howard Shreves, 1320 S. Minnesota, Sioux Falls, SD 57105
Geof Slingsby	Dr. R. J. Bareis, 2800 Jackson Blvd., Rapid City, SD 57701
Alan Snodgrass	Dr. Robert Thompson, Yankton Clinic, Yankton, SD 57078
Julie Stevens	Dr. William Taylor, 422 Fifth S.E., Aberdeen, SD 57401
Mel Thomas	Dr. Bruce Lushbough, Brookings Clinic, Brookings, SD 57006
Howard Tice	Dr. William Hanson, 433 Kansas, S.E., Huron, SD 57350
Robert Van Demark	Dr. Stephen Brzica, 520 West 22nd St., Sioux Falls, SD 57105
Steve Vosler	Dr. Charles Gwinn, P.O. Box 70, Rapid City, SD 57701
Holly Weisner	Drs. DeGeest & Monfore, Miller, SD 57362
Jeff Wheeler	Dr. Parry Nelson, 600 4th St., N.E., Watertown, SD 57201
Jim Yip	Dr. Irvin Kaufman, Freeman, SD 57029
Richard Young	Dr. Ellison Kalda, Platte, SD 57369

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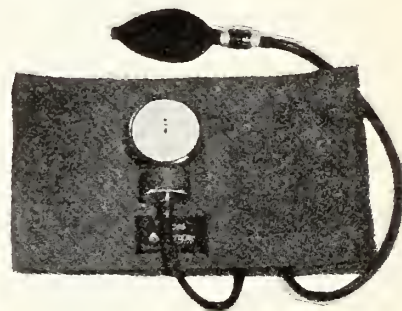
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# South Dakota State Medical Association Roster — 1974

## Membership by Districts

### ABERDEEN

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Pres., Juan Chavier, M.D.

Sec., A. J. Janusz, M.D.

Avotins, R. .... Faulkton  
\*Bloemendaal, G.J. .... Ipswich  
Broadhurst, K. A. .... Aberdeen  
Bunker, T. G. .... Aberdeen  
Calene, J. L. .... Aberdeen  
Chang, Joe P. .... Aberdeen  
Chavier, Juan R. .... Aberdeen  
Christopher, John .... Aberdeen  
Damm, W. P. .... Redfield  
deDianous, N. .... Aberdeen  
Driver, I. .... Aberdeen  
Eckrich, J. A. .... Aberdeen  
Eckrich, J. A., Jr. .... Aberdeen  
Fahrenwald, M. .... Redfield

Gerber, B. C. .... Aberdeen  
\*Graff, L. W. .... Britton  
Hovland, James I. .... Aberdeen  
Janusz, A. J. .... Aberdeen  
Jowsey, John .... Aberdeen  
Kosse, Karl .... Aberdeen  
Leon, Paul .... Aberdeen  
\*McCarthy, P. V. .... Aberdeen  
McGee, Robert C. .... Aberdeen  
McIntosh, G. F. .... Eureka  
Murdy, C. B. .... Aberdeen  
Norgello, V. .... Redfield  
Odland, W. B. .... Aberdeen  
Patterson, D. .... Redfield

Perry, E. J. .... Aberdeen  
Rodine, J. C. .... Aberdeen  
Rudolph, E. A. .... Aberdeen  
Sanders, M. E. .... Aberdeen  
Scheffel, A. .... Redfield  
Seaman, David .... Aberdeen  
Shaw, H. .... Ipswich  
Shousha, Alfred .... Britton  
Steele, G. H. .... Aberdeen  
Sweeny, W. T. .... Aberdeen  
Taylor, Wm. R. .... Aberdeen  
Vogele, A. C. .... Aberdeen  
Vogele, C. L. .... Aberdeen  
Zvejnieks, Karlis .... Aberdeen

### WATERTOWN

#### DISTRICT No. 2

Pres., C. R. Stoltz, M.D.

Sec., J. J. Stransky, M.D.

Allen, S. .... Watertown  
Argabrite, J. W. .... Watertown  
Bartron, G. Robert .... Watertown  
Bartron, H. J., Jr. .... Watertown  
Brakss, V. .... Watertown  
Brown, H. Russell .... Watertown  
Clark, C. J. .... Watertown  
Desai, B. J. .... Watertown  
Fedt, D. .... Watertown

\*Gysin, M. W. .... Watertown  
Hanson, B. .... Watertown  
Heinrichs, E. H. .... Watertown  
Heupel, Alden R. .... Watertown  
Hughes, H. D. .... Clear Lake  
\*Huppler, E. G. .... Watertown  
Larson, James C. .... Watertown  
Meyer, Robert .... Watertown  
Michieli, Jose .... Watertown  
Nelson, P. S. .... Watertown

Piro, David F. .... Watertown  
Rittmann, John .... Watertown  
Rousseau, David .... M.S.  
Rousseau, M. C. .... Watertown  
Rud, James .... Watertown  
Stoltz, C. R. .... Watertown  
Stransky, J. J. .... Watertown  
Tracy, G. E. .... Watertown  
Wrage, T. J., Jr. .... Watertown

### MADISON-BROOKINGS

#### DISTRICT No. 3

Pres., Werner Klar, M.D.

Sec., C. M. Kershner, M.D.

Anderson, J. A. .... Madison  
Arbon, R. K. .... Idaho  
Belatti, R. .... Madison  
Dawson, John B. .... Brookings  
Francisco, E. .... Estelline  
Franckowiak, John J. .... Brookings  
Friefeld, S. .... Brookings  
Henry, Robert .... Brookings  
Hura, R. .... Howard  
Kershner, C. M. .... Brookings  
Klar, W. .... Flandreau

Lampert, A. A., Jr. .... Madison  
Lushbough, B. C. .... Brookings  
Malhi, D. S. .... Lake Preston  
Malhi, H. .... Lake Preston  
McCabe, F. X. .... Brookings  
Muggly, J. A. .... Madison  
Nanson, J. .... Brookings  
Otey, B. T. .... Flandreau  
Patt, W. H. .... Brookings  
Plowman, E. T. .... Brookings

Reagan, J. L. .... Madison  
Roberts, C. S., Jr. .... Brookings  
Scheller, D. L. .... Arlington  
Shaskey, R. E. .... Brookings  
\*Sherwood, C. E. .... Madison  
Stensrud, H. J. .... Madison  
Tank, M. .... Brookings  
Wait, C. .... Brookings  
\*Westaby, J. R. .... Madison  
\*Whitson, G. E. .... Madison  
\*Wold, H. R. .... Madison

### PIERRE

#### DISTRICT No. 4

Pres., R. Hayes, M.D.

Sec., J. T. Cowan, M.D.

Askwig, L. C. .... Pierre  
Collins, E. H. .... Gettysburg  
Cosand, M. Pierre .... Pierre  
Cowan, J. T. .... Pierre  
Fett, J. D. .... Pierre  
\*Fox, S. W. .... Florida

Hayes, R. H. .... Pierre  
Horthy, K. .... Kennebec  
Jahraus, R. C. .... Pierre  
Lindbloom, B. O. .... Pierre  
Morrissey, M. M. .... Pierre

Park, Dai H. .... Pierre  
Spears, B. .... Pierre  
Swanson, C. L. .... Pierre  
Tieszen, A. J. .... Pierre  
Werthman, H. E. .... Pierre  
Zakahi, R. J. .... Pierre

### HURON

#### DISTRICT No. 5

Pres., David Buchanan, M.D.

Sec., Emil Hofer, M.D.

Adams, H. P. .... Huron  
Bell, G. Robert .... DeSmet  
Buchanan, D. .... Huron  
Buchanan, R. A. .... Huron  
Dean, Roscoe .... Wess. Springs  
DeGeest, J. H. .... Miller  
Gryte, C. F. .... Huron  
Hanson, Wm. O. .... Huron

Hofer, E. A. .... Huron  
Hohm, P. .... Huron  
Hohm, T. .... Huron  
Huet, G. M. .... Huron  
Joseph, E. .... Huron  
Karlen, L. W. .... DeSmet  
Kim, T. .... Huron

Lardinois, C. C. .... Huron  
Leigh, F. D. .... Huron  
Lenz, B. T. .... Huron  
Monfore, James .... Miller  
Orgusaar, R. .... Florida  
Saxton, W. H. .... Huron  
Saylor, H. L., Jr. .... Huron  
Tschetter, P. S. .... Huron



**MITCHELL**  
**DISTRICT No. 6**  
 Pres., J. Judge, M.D.  
 Sec., R. G. Gere, M.D.

Berry, J. T. .... Mitchell  
 Binder, C. F. .... Chamberlain  
 Delaney, Robert .... Mitchell  
 Delaney, W. A., Jr. .... Mitchell  
 Erdmann, Ralph R. .... Mitchell  
 Gere, R. G. .... Mitchell  
 Gillis, F. D. .... Mitchell  
 Hockett, Richard .... Mitchell  
 Holland, L. W. .... Chamberlain

Judge, J. O. .... Mitchell  
 Lewis, H. R. .... Mitchell  
 \*Lloyd, J. H. .... Mitchell  
 Mabee, J. O. .... Mitchell  
 Mabee, O. J. .... Mitchell  
 McCann, J. P. .... Parkston  
 Monson, C. D. .... Parkston  
 Mueller, E. H. .... Tripp

Murphy, John T. .... Mitchell  
 Porter, M. .... Parkston  
 Schabauer, E. A. .... Mitchell  
 Skogmo, B. R. .... Mitchell  
 Tobin, L. W. .... Mitchell  
 Vonburg, V. R. .... Mitchell  
 Vose, J. L. .... Mitchell  
 Weatherill, D. W. .... Mitchell  
 Weber, R. A. .... Mitchell

**SIoux FALLS**  
**DISTRICT No. 7**

Pres., James Shaeffer, M.D.  
 Sec., D. Lang, M.D.  
 Treas., Guy Tam, M.D.

Alcorn, F. A. .... Sioux Falls  
 Alvine, F. G. .... Sioux Falls  
 Amundson, Loren .... Sioux Falls  
 Anderson, C. .... Sioux Falls  
 Anderson, T. R. .... Sioux Falls  
 Anderson, W. R. .... Sioux Falls  
 Angelos, T. .... Canton  
 Arneson, W. A. .... Sioux Falls  
 Aspaas, P. K. .... Dell Rapids  
 Barlow, J. F. .... Sioux Falls  
 Barnett, G. L. .... Sioux Falls  
 Begley, B. J. .... Sioux Falls  
 Billion, J. J. .... Sioux Falls  
 Billion, T. J., Jr. .... Sioux Falls  
 Boade, W. A. .... Sioux Falls  
 Breit, D. H. .... Sioux Falls  
 Brewer, A. L. .... Alabama  
 Brzica, S. M. .... Sioux Falls  
 Burns, E. A. .... Sioux Falls  
 Burns, K. .... Sioux Falls  
 \*Carney, M. .... Texas  
 Chalmers, J. H. .... Sioux Falls  
 Church, W. G. .... Sioux Falls  
 \*Cottam, G. I. W. .... Sioux Falls  
 Cutshall, V. H. .... Sioux Falls  
 Cutshall, V. K. .... Sioux Falls  
 Daw, E. F. .... Sioux Falls  
 DeClark, R. P. .... Sioux Falls  
 de Marco, Lynn .... Sioux Falls  
 Devick, J. C. .... Colton  
 Donahoe, J. W. .... Sioux Falls  
 Donahoe, R. R. .... Sioux Falls  
 \*Donahoe, W. E. .... Sioux Falls  
 Eirinberg, I. .... Sioux Falls  
 Elkjer, Neil .... Sioux Falls  
 Ensberg, D. .... Sioux Falls  
 Entwistle, F. R. .... Sioux Falls  
 Epp, D. .... Freeman  
 Ericksen, E. G. .... Sioux Falls  
 Farkas, E. C. .... Sioux Falls  
 Farrell, H. W. .... Sioux Falls  
 Felker, James .... Sioux Falls  
 Ferrell, M. R. .... Sioux Falls  
 Finney, L. W. .... Sioux Falls  
 Fisk, R. G. .... Dell Rapids  
 Friess, R. W. .... Sioux Falls

Frost, D. M. .... Sioux Falls  
 Giebink, R. R. .... Sioux Falls  
 Greenfield, D. L. .... Sioux Falls  
 Greenfield, R. E. .... Sioux Falls  
 Gregg, J. B. .... Sioux Falls  
 Gross, H. Phil .... Sioux Falls  
 Groote, C. .... Sioux Falls  
 \*Grove, M. S. .... Sioux Falls  
 Gunnarson, R. E. .... Sioux Falls  
 Hansen, H. F. .... Sioux Falls  
 Hartzell, A. .... Sioux Falls  
 ‡Henry, T. .... Sioux Falls  
 Hermanson, J. M. .... Valley Springs  
 Hosen, R. S. .... Sioux Falls  
 Hoskins, J. H. .... Sioux Falls  
 Hoskins, John .... Sioux Falls  
 Hyland, L. .... Sioux Falls  
 Janis, J. B. .... Sioux Falls  
 Jaqua, R. A. .... Sioux Falls  
 Johnson, D. L. .... Sioux Falls  
 Jones, W. L. .... Sioux Falls  
 Kaufman, I. I. .... Freeman  
 Kemp, E. .... Sioux Falls  
 Kemper, C. E. .... Viborg  
 Kennelley, Daniel .... Sioux Falls  
 King, L. M. .... Sioux Falls  
 Kittelson, H. O. .... Sioux Falls  
 Kohlmeier, F. C. .... Sioux Falls  
 Lakstigala, P. .... Sioux Falls  
 Lang, Durward .... Sioux Falls  
 Larson, Leland J. .... Sioux Falls  
 Leander, R. B. .... Sioux Falls  
 Leraan, L. G. .... Sioux Falls  
 Lie, Dagfinn .... Idaho  
 Looby, T. .... Sioux Falls  
 Maresh, E. R. .... Sioux Falls  
 Mattice, Lloyd .... Sioux Falls  
 Moller, C. .... Nebraska  
 Munson, D. .... Sioux Falls  
 Mutch, M. G. .... Sioux Falls  
 McDonald, C. J. .... Sioux Falls  
 McGreevy, E. J. .... Sioux Falls  
 McGreevy, J. V. .... Sioux Falls  
 McGreevy, P. S. .... Sioux Falls  
 McHardy, B. R. .... Sioux Falls

McManus, T. B. .... Sioux Falls  
 Naughton, G. .... Sioux Falls  
 Nelson, Earl .... Viborg  
 Nelson, R. E. .... Sioux Falls  
 Nice, Richard .... Sioux Falls  
 Ochsner, J. A. .... Sioux Falls  
 Ogborn, R. J. .... Sioux Falls  
 Opheim, W. L. .... Sioux Falls  
 Orr, R. T. .... Sioux Falls  
 Ormeier, Denny .... Sioux Falls  
 Pasek, E. A. .... Sioux Falls  
 Peik, D. J. .... Sioux Falls  
 Petereit, M. F. .... Sioux Falls  
 Peters, E. H. .... Sioux Falls  
 Petres, A. .... Salem  
 Pitt-Hart, Barry T. .... Sioux Falls  
 Quinn, R. H. .... Sioux Falls  
 Reams, G. .... Dell Rapids  
 Reagan, P. R. .... Sioux Falls  
 Regier, E. .... Canton  
 Rossing, W. O. .... Sioux Falls  
 Rost, M. .... Sioux Falls  
 Salmon, Don .... California  
 Sanderson, E. W. .... Sioux Falls  
 Schultz, R. D. .... Sioux Falls  
 \*Sercl, W. .... Sioux Falls  
 Shaeffer, J. H. .... Sioux Falls  
 Shreves, H. .... Sioux Falls  
 Sittner, Larry .... Sioux Falls  
 Smith, G. .... Sioux Falls  
 Stahmann, F. .... Sioux Falls  
 \*Steiner, P. K. .... Sioux Falls  
 Swanson, P. .... Sioux Falls  
 Sweeney, L. J. .... Sioux Falls  
 Tam, Guy .... Sioux Falls  
 Tschetter, R. T. .... Sioux Falls  
 Van Demark, R. E. .... Sioux Falls  
 Villa, Jose .... Freeman  
 Volin, V. V. .... Sioux Falls  
 Wagner, Loyd .... Sioux Falls  
 Waltner, Lonnie .... Bridgewater  
 Walton, J. E. .... Sioux Falls  
 Wegner, K. H. .... Sioux Falls  
 Williams, B. J. .... Sioux Falls  
 \*Williams, M. F. .... Minnesota  
 Zandersons, V. .... Parker

**YANKTON**  
**DISTRICT No. 8**

Pres., D. R. Holzwarth, M.D.  
 Sec., Gordon Held, M.D.  
 Treas., H. J. Fletcher, M.D.

Auld, Marian .... Arizona  
 Auld, M. A. .... Yankton  
 Brookman, B. T. .... Wagner  
 Fletcher, H. .... Vermillion  
 Foley, R. J. .... Tyndall  
 Halverson, K. .... Yankton  
 Held, G. .... Yankton  
 Herbrandson, C. R. .... Vermillion  
 \*Hill, J. F. .... Yankton  
 Holzwarth, D. R. .... Yankton  
 Honke, R. W. .... Wagner  
 Hubner, J. .... Yankton  
 Hubner, R. F. .... Yankton  
 Jackson, J. K. .... Yankton  
 Jameson, G. M. .... Yankton

Johnson, C. A. .... Vermillion  
 Johnson, C. F. .... Yankton  
 Kalda, E. F. .... Platte  
 Leshner, R. .... Yankton  
 Lyso, M. .... Yankton  
 McVay, C. B. .... Yankton  
 Moore, E. J. .... Vermillion  
 Muckala, K. .... Minnesota  
 Porter, Richard I. .... Yankton  
 Pratt, F. .... Texas  
 Price, Ronald .... Armour  
 Quick, Wm. .... Yankton  
 Radack, Morris .... Yankton  
 Ramos, M. .... Scotland  
 Ranney, B. .... Yankton  
 Reaney, D. B. .... Yankton

Reding, A. P. .... Marion  
 Ryan, C. F. .... New York  
 Saloom, H. .... Tyndall  
 Saoi, N. B. .... Yankton  
 Sattler, T. H. .... Yankton  
 Savage, L. .... Yankton  
 Sebring, F. U. .... Vermillion  
 Stanage, W. F. .... Yankton  
 Steele, J. P. .... Yankton  
 Stephenson, D. R. .... Yankton  
 Thompson, R. F. .... Yankton  
 Thornton, R. R. .... Yankton  
 Tidd, J. T. .... Yankton  
 Turner, C. R. .... Vermillion  
 Willcockson, T. H. .... Yankton

## BLACK HILLS

### DISTRICT No. 9

Pres., J. A. Kovarik, M.D.

Sec., A. J. Barrett, M.D.

Ahrlin, H. L. .... Rapid City  
 Allen, Bruce .... Rapid City  
 Anderson, A. B. .... Lead  
 Bailey, J. D. .... Rapid City  
 Bareis, R. J. .... Rapid City  
 Barrett, A. J. .... Rapid City  
 Behrens, C. L. .... Rapid City  
 Bergeron, D. A. .... Rapid City  
 Berkebile, Dale .... Rapid City  
 Blake, Charles A. .... Rapid City  
 Bloemendaal, R. D. .... Rapid City  
 Blunck, C. J. .... Rapid City  
 \*Borgmeyer, H. J. .... Rapid City  
 Boyce, R. A. .... Rapid City  
 Branch, Robert .... Rapid City  
 Bray, R. B. .... Rapid City  
 Brown, Michael .... Spearfish  
 Burnett, R. .... Rapid City  
 Cameron, D. E. .... Rapid City  
 Carson, L. E. .... Lead  
 \*Chassell, J. L. .... Belle Fourche  
 \*Clark, B. S. .... Spearfish  
 Cline, J. A. .... North Carolina  
 Dewald, A. .... Rapid City  
 Dulaney, C. H. .... Ft. Meade  
 Dzintars, P. F. .... Rapid City  
 Elston, J. T. .... Rapid City  
 Ferrell, R. .... Rapid City  
 Finley, R. C. .... Rapid City  
 Freimark, L. G. .... Rapid City  
 Fromm, H. E. .... Rapid City  
 Frost, H. L. .... Rapid City  
 Gilbert, F. J. .... Ft. Meade

Golliher, W. N. .... Spearfish  
 Gwinn, C. B. .... Rapid City  
 Haas, S. .... Ellsworth AFB  
 Hamm, Joseph .... Sturgis  
 Hare, H. J. .... Rapid City  
 \*Hare, Lyle .... Spearfish  
 Harris, R. H. .... Rapid City  
 Haugan, H. O. .... Rapid City  
 Hercules, C. .... Rapid City  
 Hewitt, J. M. .... Rapid City  
 Jacobson, T. R. .... Hot Springs  
 James, E. .... Rapid City  
 Janss, Gerti .... Rapid City  
 Janss, Wm. .... Rapid City  
 Javurek, A. J. .... Deadwood  
 Johnson, Robert K. .... Rapid City  
 Jones, W. E. .... Sturgis  
 Kegaries, D. L. .... Rapid City  
 Kelley, D. H. .... Rapid City  
 Kovarik, J. A. .... Rapid City  
 Kovarik, R. A. .... Rapid City  
 Kovarik, W. J. .... Rapid City  
 Kunz, J. A. .... Rapid City  
 Kwan, F. P. .... Rapid City  
 Lampert, A. A. .... Rapid City  
 Langenfeld, M. G. .... Spearfish  
 Loos, C. .... Rapid City  
 Lopez, A. .... Hot Springs  
 Lowe, H. .... Custer  
 Mangulis, G. .... Philip  
 Mattox, J. E. .... Deadwood  
 Massa, L. L. .... Sturgis

Mattson, W. .... Rapid City  
 Mead, T. .... Spearfish  
 Merryman, M. P. .... Rapid City  
 Meyers, W. .... Hot Springs  
 Millea, R. P. .... Rapid City  
 Munson, H. B. .... Rapid City  
 \*O'Toole, T. F. .... Rapid City  
 Owen, G. S. .... Rapid City  
 Palmerton, E. S. .... Rapid City  
 Perry, Wm. .... Ft. Meade  
 \*Radusch, F. J. .... California  
 Reinoehl, W. .... Custer  
 Ruud, E. T. .... Rapid City  
 Sabow, J. D. .... Rapid City  
 \*Salladay, I. R. .... Ft. Meade  
 \*Saxton, A. J. .... Kansas  
 Sejvar, J. P. .... St. Paul  
 Sherrill, S. F. .... Belle Fourche  
 Shining, H. S. .... Rapid City  
 Slater, H. C. .... Rapid City  
 Slingsby, J. B. .... Rapid City  
 Smart, E. .... Belle Fourche  
 Strand, R. D. .... Rapid City  
 Swisher, L. P. .... Kadoka  
 Tesar, C. E. .... Rapid City  
 Theissen, H. H. .... Rapid City  
 Trinidad, R. .... Deadwood  
 Westaby, R. S., Jr. .... Pierre  
 Whitney, N. R. .... Rapid City  
 Williams, F. R. .... Rapid City  
 Wood, G. F. .... Rapid City  
 Yackley, J. V. .... Rapid City  
 Zanka, J. A. .... Rapid City

## ROSEBUD

### DISTRICT No. 10

Sec., Robert Stiehl, M.D.

Nemer, R. G. .... Gregory

Stiehl, R. .... Winner  
 Sweet, E. P. .... Burke

Verma, K. .... Gregory

## NORTHWEST

### DISTRICT No. 11

Pres., R. R. Lawrence, M.D.

Sec., L. M. Linde, M.D.

Collins, J. D. .... Hoven  
 Lawrence, R. R. .... Mobridge  
 Linde, Leonard .... Mobridge

Nolan, B. P. .... Mobridge  
 Pelton, Charles .... Hoven

Ryan, J. E. .... Mobridge  
 \*Spiry, A. W. .... Mobridge  
 Torkildson, G. .... McLaughlin

## WHETSTONE VALLEY

### DISTRICT No. 12

Pres., V. Janavs, M.D.

Sec., E. A. Johnson, M.D.

Batt, E. J. .... Sisseton  
 Bell, Eldon .... Webster  
 †Brinkman, W. C. .... Sisseton  
 Buentipo, B. .... Milbank

Gregory, D. A. .... Milbank  
 Janavs, V. .... Milbank  
 Johnson, E. A. .... Milbank  
 Judge, W. T. .... Milbank

Kass, Joseph .... Rosholt  
 Lovering, J. .... Sisseton  
 Nelson, L. F. .... Webster  
 Vogelgesang, L. C. .... Webster

M.S.—Indicates Military Service

\*—Indicates Honorary Membership

†—Indicates Retired from Practice

‡—Resident



# South Dakota State Medical Association Roster — 1974

## Membership — Alphabetical Listing

Adams, H. P. .... Huron	*Clark, B. S. .... Spearfish	Gryte, C. F. .... Huron
Ahrlin, H. L. .... Rapid City	Clark, C. J. .... Watertown	Gunnarson, R. E. .... Sioux Falls
Alcorn, F. A. .... Sioux Falls	Cline, J. A. .... North Carolina	Gwinn, C. B. .... Rapid City
Allen, Bruce .... Rapid City	Collins, E. H. .... Gettysburg	*Gysin, Walter .... Watertown
Allen, S. W. .... Watertown	Collins, James .... Hoven	Haas, Stephen .... Ellsworth AFB
Alvine, F. G. .... Sioux Falls	Cosand, M. R. .... Pierre	Halverson, K. .... Yankton
Amundson, Loren .... Sioux Falls	*Cottam, G. I. W. .... Sioux Falls	Hamm, Joseph .... Deadwood
Anderson, A. B. .... Lead	Cowan, J. T. .... Pierre	Hansen, H. F. .... Sioux Falls
Anderson, C. Wm. .... Sioux Falls	Cutshall, V. H. .... Sioux Falls	Hanson, B. .... Watertown
Anderson, J. A. .... Madison	Cutshall, V. K. .... Sioux Falls	Hanson, W. O. .... Huron
Anderson, T. R. .... Sioux Falls	Damm, W. P. .... Redfield	Hare, H. J. .... Rapid City
Anderson, W. R. .... Sioux Falls	Daw, E. F. .... Sioux Falls	*Hare, Lyle .... Spearfish
Angelos, T. .... Canton	Dawson, J. .... Brookings	Harris, Russell .... Rapid City
Arbon, R. K. .... Idaho	Dean, Roscoe .... Wess. Springs	Hartzell, A. .... Sioux Falls
Argabrite, J. W. .... Watertown	DeClark, R. P. .... Sioux Falls	Haugan, H. O. .... Rapid City
Arneson, W. A. .... Sioux Falls	de Dianous, N. .... Aberdeen	Hayes, R. H. .... Pierre
Askwig, L. C. .... Pierre	De Geest, J. H. .... Miller	Heinrichs, E. H. .... Watertown
Aspaas, P. K. .... Dell Rapids	Delaney, R. J. .... Mitchell	Held G. .... Yankton
Auld, Marian .... Arizona	Delaney, W. A., Jr. .... Mitchell	Henry, Robert .... Brookings
Auld, M. A. .... Yankton	de Marco, Lynn .... Sioux Falls	†Henry, T. .... Sioux Falls
Avotins, R. .... Faulkton	Desai, B. J. .... Watertown	Herbrandson, C. R. .... Vermillion
Bailey, J. D. .... Rapid City	Devick, J. S. .... Colton	Hercules, C. .... Rapid City
Bareis, R. J. .... Rapid City	Dewald, A. .... Rapid City	Hermanson, J. M. .... Valley Springs
Barlow, J. F. .... Sioux Falls	Donahoe, J. W. .... Sioux Falls	Heupel, Alden R. .... Watertown
Barnett, G. L. .... Sioux Falls	Donahoe, R. R. .... Sioux Falls	Hewitt, J. M. .... Rapid City
Barrett, A. J. .... Rapid City	*Donahoe, W. E. .... Sioux Falls	*Hill, J. F. .... Yankton
Bartron, G. R. .... Watertown	Driver, I. E. .... Aberdeen	Hockett, R. D. .... Mitchell
Bartron, H. J., Jr. .... Watertown	Dulaney, C. H. .... Ft. Meade	Hofer, E. A. .... Huron
Batt, E. J. .... Sisseton	Dzintars, P. F. .... Rapid City	Hohm, Paul .... Huron
Begley, B. J. .... Sioux Falls	Eckrich, J. A. .... Aberdeen	Hohm, Theo. .... Huron
Behrens, C. L. .... Rapid City	Eckrich, J. A., Jr. .... Aberdeen	Holland, L. W. .... Chamberlain
Belatti, R. .... Madison	Eiringer, I. .... Sioux Falls	Holzwarth, D. R. .... Yankton
Bell, Eldon .... Webster	Elkjer, Neil .... Sioux Falls	Honke, R. W. .... Wagner
Bell, G. Robert .... DeSmet	Elston, J. T. .... Rapid City	Horthy, K. .... Kennebec
Bergeron, D. A. .... Rapid City	Ensberg, D. L. .... Sioux Falls	Hosen, R. S. .... Sioux Falls
Berkebile, D. .... Rapid City	Entwistle, F. R. .... Sioux Falls	Hoskins, J. H. .... Sioux Falls
Berry, J. T. .... Mitchell	Epp, D. L. .... Freeman	Hoskins, John .... Sioux Falls
Billion, J. J. .... Sioux Falls	Erdmann, R. R. .... Mitchell	Hovland, James I. .... Aberdeen
Billion, T. J., Jr. .... Sioux Falls	Ericksen, E. G. .... Sioux Falls	Hubner, J. .... Yankton
Binder, C. F. .... Chamberlain	Fahrenwald, M. .... Redfield	Hubner, R. F. .... Yankton
Blake, C. F. .... Rapid City	Farkas, E. C. .... Sioux Falls	Huet, G. M. .... Huron
*Bloemendaal, G. J. .... Ipswich	Farrell, H. W. .... Sioux Falls	Hughes, H. D. .... Clear Lake
Bloemendaal, R. D. .... Rapid City	Fedt, Donald .... Watertown	*Huppler, E. G. .... Watertown
Blunck, C. F. .... Rapid City	Felker, J. .... Sioux Falls	Hura, R. .... Howard
Boade, W. E. .... Sioux Falls	Ferrell, M. R. .... Sioux Falls	Hyland L. .... Sioux Falls
*Borgmeyer, H. J. .... Rapid City	Ferrell, R. .... Rapid City	Jackson, J. K. .... Yankton
Boyce, R. A. .... Rapid City	Fett, J. .... Pierre	Jacobson, T. R. .... Hot Springs
Brakss, V. .... Watertown	Finley, R. C. .... Rapid City	Jahraus, R. C. .... Pierre
Branch, R. .... Rapid City	Finney, L. .... Sioux Falls	James, E. .... Rapid City
Bray, R. B. .... Rapid City	Fisk, R. G. .... Dell Rapids	Jameson, G.M. .... Yankton
Breit, D. H. .... Sioux Falls	Fletcher, H. .... Vermillion	Janavs, V. .... Milbank
Brewer, A. L. .... Alabama	Foley, R. J. .... Tyndall	Janis, J. B. .... Sioux Falls
*Brinkman, W. C. .... Sisseton	*Fox, S. W. .... Florida	Janss, Gerti .... Rapid City
Broadhurst, K. A. .... Aberdeen	Francisco, E. .... Estelline	Janss, Wm. .... Rapid City
Brookman, B. T. .... Wagner	Frankowiak, J. .... Brookings	Janusz, A. J. .... Aberdeen
Brown, H. R. .... Watertown	Freimark, L. .... Rapid City	Jaqua, R. A. .... Sioux Falls
Brown, M. .... Spearfish	Friefeld, S. .... Brookings	Javurek, A. .... Deadwood
Brzica, S. M. .... Sioux Falls	Friess, R. W. .... Sioux Falls	Johnson, C. A. .... Vermillion
Buchanan, D. .... Huron	Fromm, H. E. .... Rapid City	Johnson, C. F. .... Yankton
Buchanan, R. A. .... Huron	Frost, D. M. .... Sioux Falls	Johnson, D. L. .... Sioux Falls
Buentipo, B. .... Milbank	Frost, H. L. .... Rapid City	Johnson, E. A. .... Milbank
Bunker, T. G. .... Aberdeen	Gerber, B. C. .... Aberdeen	Johnson, Robert .... Rapid City
Burns, E. A. .... Sioux Falls	Gere, R. G. .... Mitchell	Jones, W. E. .... Sturgis
Burns, K. R. .... Sioux Falls	Giebank, R. R. .... Sioux Falls	Jones, W. L. .... Sioux Falls
Burnett, R. .... Rapid City	Gilbert, F. J. .... Ft. Meade	Joseph, E. .... Huron
Calene, J. L. .... Aberdeen	Gillis, F. D. .... Mitchell	Jowsey, J. .... Aberdeen
Cameron, D. E. .... Rapid City	Golliher, W. N. .... Spearfish	Judge, J. O. .... Mitchell
*Carney, M. .... Ft. Worth, Texas	*Graff, L. W. .... Britton	Judge, W. T. .... Milbank
Carson, L. E. .... Lead	Greenfield, D. L. .... Sioux Falls	Kalda, E. F. .... Platte
Chalmers, J. H. .... Sioux Falls	Greenfield, R. E. .... Sioux Falls	Karlen, L. W. .... DeSmet
Chang, J. P. .... Aberdeen	Gregg, J. B. .... Sioux Falls	Kass, Joseph .... Rosholt
*Chassell, J. L. .... Belle Fourche	Gregory, D. A. .... Milbank	Kaufman, I. I. .... Freeman
Chavier, Juan .... Aberdeen	Gross, H. Phil .... Sioux Falls	Kegaries, D. L. .... Rapid City
Christopher, John .... Aberdeen	Groote C. .... Sioux Falls	Kelley, D. H. .... Rapid City
Church, Bill G. .... Sioux Falls	*Grove, M. S. .... Sioux Falls	Kemp, E. .... Sioux Falls

Kemper, C. E. . . . . Viborg  
Kennelly, D. . . . . Sioux Falls  
Kershner, C. M. . . . . Brookings  
Kim, T. . . . . Huron  
King, L., Jr. . . . . Sioux Falls  
Kittelson, H. O. . . . . Sioux Falls  
Klar, W. . . . . Flandreau  
Kohlmeyer, F. C. . . . . Sioux Falls  
Kosse, Karl . . . . . Aberdeen  
Kovarik, J. A. . . . . Rapid City  
Kovarik, R. A. . . . . Rapid City  
Kovarik, W. J. . . . . Rapid City  
Kunz, J. A. . . . . Rapid City  
Kwan, F. P. . . . . Rapid City  
Lakstigala, Peter . . . . . Sioux Falls  
Lampert, A. A. . . . . Rapid City  
Lampert, A. A. Jr. . . . . Madison  
Lang, Durward . . . . . Sioux Falls  
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For further information on this subject, the following references are provided:

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## RADIOLOGIC CASE PRESENTATION No. 11

by  
Martin Frank Petereit, M.D.\*



Figure I

AP pelvis film of an 85-year-old white male. There is residual barium in the colon. The bones are moderately osteoporotic. The left innominate bone shows widening, minimal cortical thickening, minimal sclerotic changes, and a coarsened trabecular pattern. Also, there is marked destruction of the lateral aspect of the left ischium with some expansion of this bone and a surrounding soft tissue mass (difficult to reproduce), but there is no definite bony reaction about this lesion. This represents a lytic aggressive lesion.

\*Medical X-Ray Center, Sioux Falls, S. D.

This 85-year-old white male was admitted to a local hospital with severe progressive pain in the left lower extremity. He was in good general health until 2 months prior to admission, when he slipped and fell, injuring his lower lumbar area. He did not seek medical attention. The pain left in a few days, but a few days later, he developed pain in the left groin which extended over the anterior left thigh and into the lower leg.

Physical examination revealed a small mass in the left inguinal area, projecting anteriorly, and an asymmetry of the lower extremities. The left calf was about 1 inch smaller than the right and the left thigh 1½ inches smaller than the right. This asymmetry was due to muscle atrophy involving the left leg. The left leg could not be moved without causing severe pain. The patient appeared wasted and cachectic. The clinical impression was: "probable soft tissue neoplasm invading the pelvic floor and entrapping the obturator nerve with secondary neuropathy of the left lower extremity."

The laboratory data was as follows: blood urea nitrogen 65 mg% (normal 10-20), WBC 16,600/cu mm (6 days later, this rose to 37,600 and showed mild toxic granulation) with a "left shift," and alkaline phosphatase 139 international units (normal 9-35). Three blood cultures were positive for *Clostridium*.

An AP roentgenogram of the pelvis revealed the typical changes of Paget's disease involving the left innominate bone and a lytic aggressive lesion involving the left ischium. Thoracic spine films (not shown) demonstrated sclerosis of the body of D-12, the appearance of which was also typical of Paget's disease. The radiographic impression was Paget's disease, left innominate bone with a primary osteosarcoma arising in the left ischium, with metastatic disease to be considered. An orthopedic impression was essentially the same. A needle biopsy was obtained from the left ischium. The microscopic diagnosis was: "osteosarcoma arising in Paget's disease."

After the biopsy, the patient developed a left lower lobe pneumonia with a fever of 105 degrees, took a downhill course, and expired.

### Discussion

Paget's disease (osteitis deformans) is an interesting skeletal disorder of unknown cause. It is common in temperate and colder climates with an incidence of 3-10% in one (monostotic) or more (polyostotic) skeletal areas over the age of 40 years. It is rare in the southern part of the United States. Males are affected twice as often as females.

This disease affects mainly the hematopoietic skeleton in the following order of frequency: pelvis, femur, skull, tibia, vertebra, clavicle, humerus, and rib.

However, it may be found in the patella and other sesamoids, calcaneus, maxilla, and nasal bones. The disease is usually monostotic and asymptomatic. The lesions are seldom painful.

The basic process is one of destruction followed by a reparative process. Three pathological phases are well known:

1. A bone destroying or bone replacement phase—This is an acute phase, is seen as an area of decreased density, and is called "osteoporosis circumscripta." This is not a good term. Acute or destructive phase is better. It is seen in the following bones in this order: ilium, skull, spine, and upper tibia. This area of decreased density assumes a "V" shape in the ilium and tibia, while in the skull it is often large and rounded.
2. Intermediate or combined phase—Here the process of destruction and repair are about equal. The roentgenogram shows alternating lucent and sclerotic areas.
3. Sclerotic or bone forming phase—Here the reparative process is predominant. The trabeculae are coarse and widened, the cortex thickened, and the marrow space narrowed.

Microscopically, the lesions are characterized by marked vascularity and fibrosis. There is considerable enlargement of the Haversian canals (canals which penetrate compact bone and contain blood vessels), making differentiation between compact and spongy bone difficult. Osteoclastic and osteoblastic activity occur simultaneously. As a result, there is a distortion of normal bone architecture which is called the "mosaic pattern."

The roentgenographic picture varies with the bone involved and the stage of the disease. The end result is a weakened, deformed, and thickened skeleton. The combination of thickened cortex, coarsened trabecula, and increase in bone size are pathognomonic of Paget's disease. It may be confused with metastatic disease, but this does not thicken the cortex. The patient with Paget's disease will often have to get larger and larger hats, as the calvarium enlarges.

Serum calcium and phosphorus are normal, but with extensive involvement, there may be hypercalcemia, especially, if the patient is immobilized. Serum alkaline phosphatase is higher in this disease than in any other condition. This enzyme is apparently formed by the osteoblasts and is found in increased quantities in serum, whenever new bone is being formed. We have seen a case here with a high serum alkaline phosphatase on a "12 panel" study. A bone survey revealed an acute phase of Paget's disease involving the skull.

Usually, this disease is considered a relatively in-



nocuous disorder, but serious complications may occur. These include:

1. Pathological fractures—Although these bones are actually weaker, they usually heal rapidly. There may be "osteoid seams" which are incompletely healed fracture lines. Heterotopic bone formation around the hip joint may accompany a pathological fracture.

2. Degenerative joint disease—of the neuropathic type may be seen, especially, at the hip.

3. Cardiac—These lesions may be quite vascular, contain arteriovenous shunts, and cause high output failure. However, this is not common. Most of these cardiac failure cases are likely due to associated arterosclerotic heart disease.

4. Nephrolithiasis—This may occur if there is extensive involvement and prolonged immobilization.

5. Neurological disturbances:

A. Cranial—basilar investigation (impression) of the skull with possible cord compression. This refers to the *posterior* 1/2 of the base of the skull with upward displacement of the odontoid process. That is, the cervical spine is pushed into the softened skull base. Platybasia refers to the *anterior* 1/2 of the skull base with a different basal angle and is normal in some ethnic groups.

Due to bony thickening, there may be con-

striction of cranial foramina. Deafness is not uncommon.

B. Spinal—It is not well known that there may be a paraspinal mass, composed of uncalcified osteoid, usually in the lower thoracic area, around several vertebral bodies, which can cause a spinal canal "block" with subsequent paraplegia. This can be confused with tuberculous spondylitis.

6. Sarcomatous degeneration—This occurs mostly in hematopoietic bones, but can occur anywhere. The incidence in some textbooks is given at 5-10%, but this is not true; it is less than 1%. The tumor is usually an osteogenic sarcoma (osteosarcoma is a better term), but can be a chondrosarcoma or fibrosarcoma. It can be unicentric or multicentric and is usually very malignant. A sudden rise in an already elevated serum alkaline phosphatase may signal the onset of an osteosarcoma. Roentgen signs of malignant degeneration include: disruption of coarsened trabecula, loss of cortical definition, further expansion of bone, and a surrounding soft-tissue mass.

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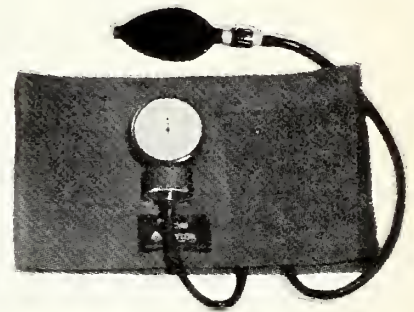
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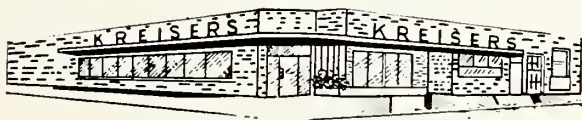
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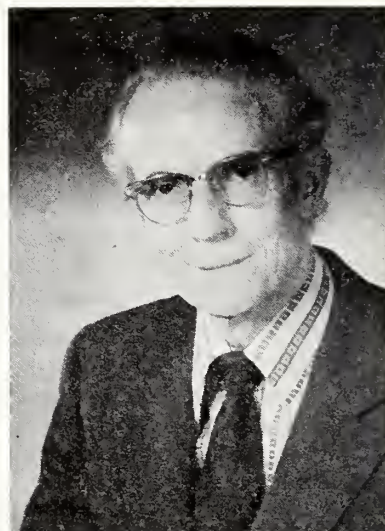
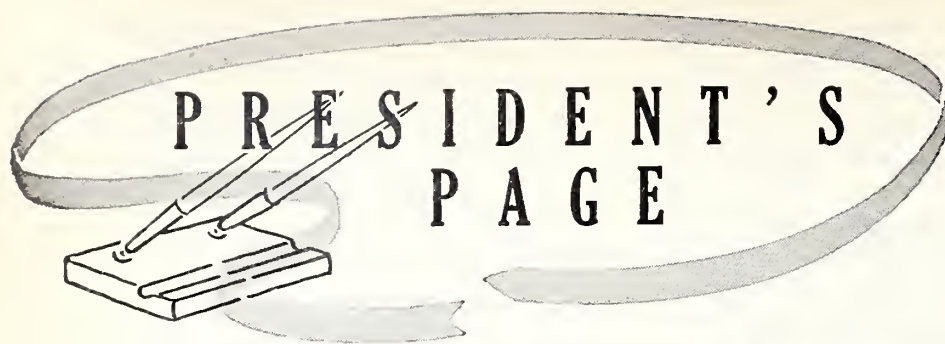
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Good communications are the keys to understanding and effective action. This truism applies not only to the individual, but to organizations.

In this wide, sparsely populated state, the need of the South Dakota Medical Association for a good communications medium for organizational and scientific affairs was recognized, and in 1947 the State Journal was established. Dr. R. G. Mayer, Aberdeen, was the founding editor and remained so until his death. Mr. John Foster, the business manager, was able to skillfully finance it entirely through advertising. This policy has continued throughout the subsequent years with increasing difficulty as a result of governmental and congressional attacks on pharmaceutical houses. In the meantime, the Journal has continued to serve the physicians of the state to the maximum extent of its resources.

With the establishment of the four year medical school, the need for the Journal will be even greater. The Journal can use more scientific papers, particularly those relating to medical problems met in this state. Despite rigid economies, the spiralling costs of inflation have made the need for more revenue increasingly apparent. Your favorable comments to the detail-men regarding their advertising in the State Journal will be of help to our business manager; remember the Journal is read by all state doctors. Your help in these matters is needed.

Robert E. Van Demark, M.D.  
President  
South Dakota State Medical Association





## SPONTANEOUS PNEUMOTHORAX

by  
S. Sochocky, M.D., F.C.C.P.\*

### Etiology

In normal conditions there is no air in pleural space but a thin layer of fluid separates visceral and parietal pleura. Intrathoracic pressure in normal circumstances is about minus 6 cms water in inspiration and minus 2 cms in expiration. In a pneumothorax there is an increase in intrapleural pressure which may become positive.

There are several types of pneumothorax, depending on etiology and amount of air entering the pleural cavity. Pneumothorax may be traumatic, either open or closed, "simple spontaneous, or spontaneous pneumothorax," therapeutic or diagnostic. Pneumothorax can be acute, chronic or recurrent and may be unilateral or bilateral. According to Brock<sup>6</sup>, a pneumothorax lasting more than 3 months should be regarded as chronic.

Pneumothorax may be — I extrapleural  
II intrapleural

I. Extrapleural pneumothorax has been used in the past chiefly in connection with treatment of pulmonary tuberculosis but later abandoned because of severe complications.

II. Intrapleural pneumothorax may be divided as follows—

- |                |                           |
|----------------|---------------------------|
| 1. simple      | — spontaneous, idiopathic |
| 2. traumatic   | — a) open                 |
|                | b) closed                 |
| 3. diagnostic  |                           |
| 4. therapeutic |                           |

Spontaneous pneumothorax is usually due to congenital or acquired abnormality of lung and pleura; is usually associated with apical lung disease eg. subpleural blebs, bullae, cysts, rupture of which are the main causes of this type of pneumothorax.

### Definition:

Pneumothorax is a clinical disorder characterized by presence of air in pleural space causing retraction of lung of varying degree from chest wall to total collapse of lung.

### History:

A pneumothorax, or pneumohydrothorax, was apparently known in the time of Hippocrates. According to Withers<sup>1</sup> et al. Combolusier discussed pathophysiology of pneumothorax in 1747. Itard<sup>2</sup> reported spontaneous pneumothorax occurring in apparently healthy persons in 1803 and Laennec<sup>3</sup> described clinical manifestations of this disease in 1819. It was then generally believed that spontaneous pneumothorax was almost always associated with pulmonary tuberculosis. Palmer and Taft<sup>4</sup>, in 1931, expressed the view that 80-90 percent of patients with spontaneous pneumothorax in adults were due to pulmonary tuberculosis. However, Kjaergaard<sup>5</sup>, in 1932, followed by various authors, such as Brock,<sup>6</sup> in 1948, stated that a pneumothorax occurring in an apparently healthy person was not associated with pulmonary tuberculosis but is chiefly due to congenital or acquired abnormalities of lung and pleura.

There may be several causes as regards mechanism in which this pneumothorax occurs. The ventilation and perfusion are preferentially distributed in

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man to the lower portion in upright position. The apex of lung receives some ventilation but no perfusion causing ischemia of apex which is more susceptible to various infections. Also in upright position lung by its own weight causes a rather high negative intrapleural pressure and more distention of alveoli in apical portion than in lower lung. These differences in ventilation, perfusion and rather high negative intrapleural pressure may favor development of rupture of normal air space in upper lobes.

Spontaneous pneumothorax may occur at rest or follow intense exertion, strenuous effort or onset of cough. In series of 72 patients of Lindskog and Halasz<sup>7</sup>, the pneumothorax followed exertion in 12; in 39 the pleural rupture occurred at rest and in 21 physical activity was not recorded.

A simple spontaneous pneumothorax can occur at any age, beginning from newborn babies up to 80-90 years and may be associated with any form of chest disease. Tension pneumoperitoneum and pneumothorax in the newborn was described by Bernard J. Leininger<sup>8</sup> et al.

In series of 195 patients of Withers<sup>1</sup> et al. a large percentage of patients were underweight, thin in stature but their height was above normal.

In his series of 85 cases of spontaneous pneumothorax in apparently healthy patients Perry<sup>9</sup> found recurrence in 4.4 percent. In a series of 71 cases of pneumothorax of recurrent and spontaneous types Brock<sup>6</sup> found 17 with chronic pneumothorax. The average duration of chronic pneumothorax in his series was 15 months, the longest 9½ years.

In series of 195 patients described by Withers<sup>1</sup> et al. 94 were on the right and 99 on the left side and 2 were bilateral; 40 in his series, or 21 percent, had a history of previous pneumothorax.

In our series<sup>10</sup> of 58 patients there were 47 males and 11 females—the youngest 5 years and the oldest 71; 5 between 50 and 60 years and the remainder between 20 and 45. Pneumothorax was on the right in 20, on the left in 14. Bilateral alternating pneumothorax was found in 4 patients, the fifth was simultaneous; right recurrent in 13 and left recurrent in 6 patients.

Spontaneous pneumothorax causes reduction in vital capacity and maximum breathing capacity and also cardiac output due to intrathoracic pressure may show slight decrease.

Traumatic pneumothorax may be either open or closed and may be due to injury or trauma to chest wall. In an open wound in the chest wall direct communication with pleural space produces a "sucking" sound which is a medical emergency eg. in stab wounds of chest. This traumatic closed pneumothorax causes increased intrapleural pressure with tension which requires immediate treatment. Traumatic

pneumothorax may be due to a fractured rib—one of the most common causes of a closed pneumothorax.

Pneumothorax may be due to a tracheo-bronchial fracture and may occur as complication of tracheotomy, medianoscopy and also transcervical bronchography, also during anesthesia.

Bilateral pneumothoraces and subcutaneous emphysema following internal jugular venepuncture has been described by Sally Arnold<sup>11</sup> et al. Bilateral pneumothorax can also occur as a complication of tracheostomy. Also bilateral pneumothorax can be produced by overforceful ventilation as described by Rastogi and Wright<sup>12</sup> in 1969 and Miller and Hamilton<sup>13</sup> in 1970.

Bilateral tension pneumothorax associated with medianoscopy was described by Furgang<sup>14</sup> et al. The air escapes from broncho-alveolar system into pulmonary interstitium causing interstitial emphysema or intermediastinal causing pneumomediastinum, into pleural cavity causing pneumothorax and subcutaneous tissues causing subcutaneous emphysema. Also during anesthesia a pulmonary interstitial emphysema with its sequel may develop. Woolsey<sup>15</sup> reported development of pulmonary interstitial emphysema with intratracheal insufflation and reported 3 cases of pulmonary overdistention resulting in death, in 1912. Also in 1949, Seed<sup>16</sup> reviewed 16 cases of pneumomediastinal emphysema associated with thyroidectomy; bilateral tension pneumothorax was found 10 times and there were 11 deaths. A tension hydropneumothorax secondary to a primary pleural Echinococcus cyst was described by Jesitor<sup>17</sup> et al. and osteogenic sarcoma with pneumothorax has been described by Edward B.D. Neuhauser<sup>18</sup>.

### Clinical Manifestations:

Signs and symptoms of pneumothorax depend on amount of air and speed of entry into pleural cavity; it also depends whether mediastinum is fixed or not and on patient's pulmonary reserve. The most common symptom is a sharp, pleuritic pain, dull ache or tightness in chest, which occurs in 90 percent of patients, lasting for a few minutes or hours to a few days. The second common symptom present is shortness of breath, which occurs in 70-80 percent of patients, also a dry cough. A small pneumothorax does not produce any symptoms or signs; patient is not aware of it and is usually found on routine chest films done for some other reason.

Signs of pneumothorax vary from limited chest movements on affected side, to hyperresonance of percussion note with weak or absent breath sounds. These signs may be present if more than 50 percent of lung is collapsed. Also in patients with tension



pneumothorax due to rather large broncho-pleural fistula, signs of severe respiratory distress as cyanosis, rapid pulse and low blood pressure may be present. In this patient the lung is usually completely collapsed and mediastinum shifted to opposite side.

#### **Complications:**

Pleural fluid is a common complication of pneumothorax especially when it is due to rupture of tuberculous focus. A hemopneumothorax is due to a rupture of a small blood vessel; chest aspiration and blood transfusion may be necessary. Subcutaneous and interstitial emphysema may be associated with pneumothorax and usually no treatment is required.

Diagnostic pneumothorax may be used in differential diagnosis of disease of lung, pleura or diaphragm.

Therapeutic pneumothorax has been widely used in past in treatment of pulmonary tuberculosis until the advent of anti-tuberculous drugs.

#### **Diagnosis:**

Diagnosis of pneumothorax is usually based on history, onset of symptoms, clinical findings and on chest film taken on inspiration and expiration. In differential diagnosis, any chest disease with shortness of breath should be taken into consideration eg. pleuritis, pneumonia, or coronary heart disease. The presence of a large congenital or acquired cyst as seen on chest film should also be considered in diagnosis as well as signs of acute abdomen eg. gallbladder disease, peptic ulcer etc.

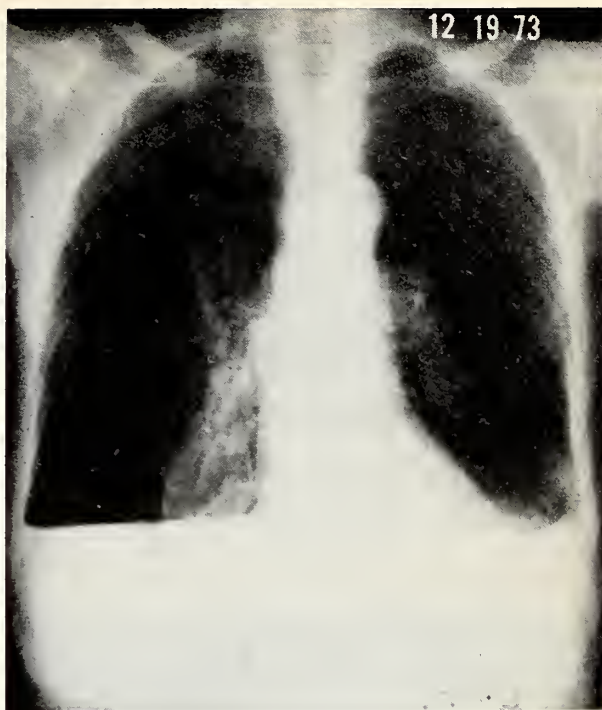
#### **Prognosis:**

Prognosis of pneumothorax depends on type, cause, time of onset to time of diagnosis and proper treatment. It also depends on condition of lung; in a patient with a low respiratory reserve, severe emphysema or cor pulmonale, pneumothorax may be fatal.

#### **Treatment:**

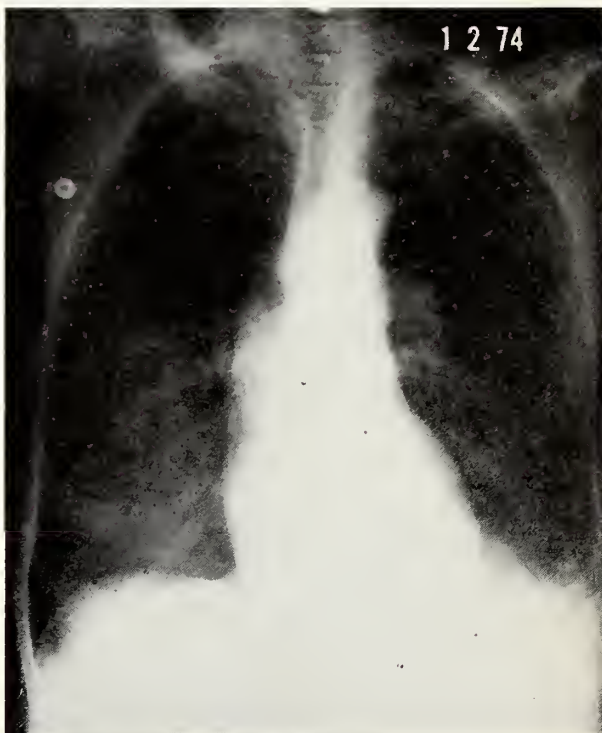
Aim of treatment of pneumothorax is to re-expand lung, preserve pulmonary function, prevent recurrence and return patient to normal activity as soon as possible.

A. Medical treatment—in patients with minimal pneumothorax bed rest with restricted activity should be applied and no intervention should be necessary. In these patients the lung will re-expand within 2-3 weeks. In a patient with a lung collapsed about 25 percent repeated needle aspirations and removal of air should be tried (See Figs. I and II). In severe tension pneumothorax with signs of acute respiratory distress and a fully collapsed lung, an intercostal tube should be inserted—closed thoracotomy—and connected to



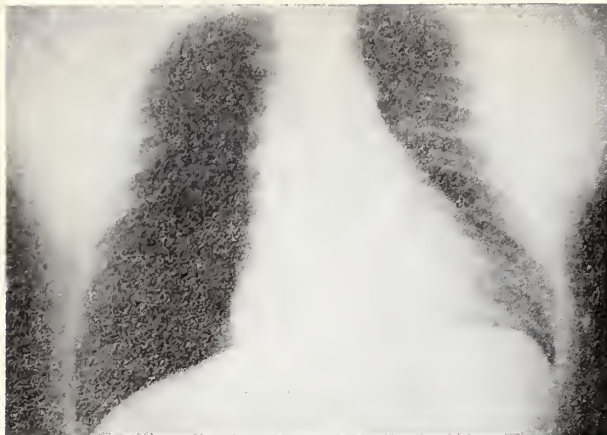
**Figure I**

Chest film on 12/19/73, shows hydropneumothorax on right, small pleural effusion on left.



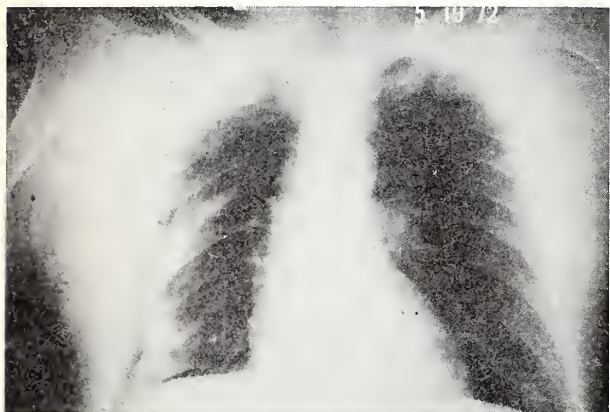
**Figure II**

Chest film on 1/2/74, shows lung almost completely re-expanded but small amount of air still present.



**Figure III**

Chest film on 5/10/72, shows complete collapse of right lung with slight shift of mediastinum to the left.



**Figure IV**

Chest film on 5/10/72, 6 hours after insertion of tube shows lung re-expanded but slight pneumothorax is still present and intercostal tube in situ.

continuous suction (See Figs. III and IV). However, the intercostal tube should be quite large as a small polythene catheter may become kinked, clogged and ineffective.

In recurrent pneumothorax a pleurodesis may be performed causing chemical pleuritis by injection of foreign sterile substances eg. kaolin, oil into pleural cavity. According to Lichter and Gwynne<sup>19</sup> in pneumothorax due to apical lung disease a wedge resection is more rational treatment than installation of pleural irritants.

B. Surgical treatment—An open thoracotomy should be performed if medical treatment fails and in recurrent and bilateral pneumothoraces. A wedge resection should also be taken into consideration when large apical bullae or blebs are visible on chest films.

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## EIGHTEEN YEAR OLD MALE WITH FEVER AND RIGHT UPPER QUADRANT PAIN

Kendall R. Burns, M.D., FACS\*  
*Discussor—Surgeon*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist—Editor*

### CASE NO. 609265

This 18-year old Caucasian male was admitted for fever and right upper quadrant pain.

The patient was well until 10 days prior to admission when he was confined to bed because of right upper quadrant constant pain. This awakened him at night but there was no nausea, vomiting, diarrhea or change in bowel habits. Because of continuing symptoms, he was admitted to another hospital. He had fever and right upper quadrant tenderness which did not respond to antibiotic medications. The white count was elevated with a shift to the left. The x-ray studies which were first negative began to show elevation of the right diaphragm. The patient became progressively weak and the pain was continuous. There was intermittent fever.

There was no history of previous operations or hospitalizations. The patient had some questionable allergies to hay. Review of systems revealed no other abnormalities.

**PHYSICAL EXAMINATION:** Temperature 101.3°F, pulse 104 per minute and regular. Respirations 24 per minute and regular, blood pressure 122 systolic over 66 diastolic. Weight 205 pounds; height 6'1". The patient was an acutely ill young man with warm dry skin. There was no evidence of jaundice. The eyelids appeared slightly edematous and reddened. Examination of the head and neck and throat were otherwise unremarkable. There was no palpable adenopathy. Lungs were clear to auscultation but there was dullness to percussion at the right base. The heart was of normal size and with no murmurs or abnormal sounds. Examination of the abdomen revealed acute tenderness in the right upper quadrant and flank with spasm but no definite rebound tenderness. The remainder of the abdominal examination showed no tenderness, spasms, palpable organs or masses. There was no abdominal distention. Bowel sounds were within normal limits. The rectal examination was negative.

**LABORATORY DATA:** Urinalysis slightly turbid, yellow, spec. gravity 1.028, pH 6.0 protein 1+, negative for glucose, ketone bodies, bile, hemoglobin: sediment—4 to 8 leukocytes/hpf, 3 to 5 red cells/hpf. There were no casts. Hemoglobin 13.4 gms/dl, red count 4.45 million/mm<sup>3</sup>, hematocrit 38 vols/dl, mean corpuscular hemoglobin 30 micromicrograms, mean corpuscular volume 86 cubic micra, mean corpuscular hemoglobin concentration 35%, total leukocyte count 23,300/mm<sup>3</sup> with 73% segmented neutrophils, 4% neutrophilic bands, 2% eosinophils, 20% lymphocytes and 1 metamyelocyte. There was toxic granulation of the neutrophils with Dohle bodies. An erythrocyte sedimentation rate was 98 mm/hr. A 12 panel test revealed normal total protein, calcium, inorganic phosphorous, glucose, blood urea nitrogen, uric acid, creatinine, total bilirubin, cholesterol 130 mgs/dl, alkaline phosphatase 130 units/dl (normal up to 95 units) lactic dehydrogenase 270 units/dl (normal up to 220 units). Serum glutamic oxaloacetic transaminase 133 units/dl (normal up to 40 units). Prothrombin time 13.5 seconds (control of 12.5 seconds) partial thromboplastin 32.5 seconds (control of 31.5 seconds). Serum ammonia 70 micrograms/dl. pH 7.42, PCO<sub>2</sub> 46 mm/mercury, CO<sub>2</sub> content 23 meq/L, sodium 120 meq/L, potassium 3.6 meq/L and chloride 94 meq/L. A serologic test for syphilis was nonreactive.

Admission chest and upright film revealed elevation of right diaphragm and some infiltrate in the lower lung field above the right hemidiaphragm. The three-way abdomen revealed adynamic ileus and apparent collection of gas outside the GI tract near the end of the 12th rib. A diagnostic procedure was performed.

**DR. BURNS:** When you hear hoofbeats, think of horses, but there are a lot of hoofbeats in this case and there may be a unicorn among them. Basically the patient has fever and right upper quadrant tenderness with a high white count and an x-ray that shows an elevated right diaphragm. The pain was continuous and the fever was intermittent. In a previously healthy young man of this age one would have to consider some sort of contamination of the left upper quadrant by gastrointestinal contents. This could be secondary to an ulcer which has perforated

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and walled off in the right upper quadrant. 17% of ulcers present with complications without previous ulcer symptoms. Biliary stones have been reported in very young patients even in the delivery room. However, in a patient this age without any preceding even suggestive symptoms of biliary disease, biliary stones are not a likely possibility. The pancreas is in the upper abdomen. I did not see an amylase on the chart so there is a possibility of a pancreatitis. The colon is also in the right upper quadrant. I have seen adenocarcinomas of the colon present with symptoms such as this in an older age group but this diagnosis again is unlikely in a patient of this age group. However, carcinoma of the colon has been reported in young adults.

Another possibility with pain in the right upper quadrant and fever is a febrile response to viral hepatitis. One should always suspect lymphoma in a clinical pathological conference. This tumor, of course, can occur in any age group. There is no evidence of heart disease to suggest that the patient had endocarditis and a septic embolus to give rise to the symptoms in the right upper quadrant. The findings on the abdominal examination tend to show that the process is well localized in the right upper quadrant. This suggests a tumor such as a lymphoma, a hepatoma, or an abscess. The absence of abdominal distention and the presence of normal bowel sounds certainly substantiates the localization of the process.

The absence of bile in the urine would tend to place the process outside of the biliary tree. The patient had 1+ protein but only a few cellular elements and no casts in the urinary sediment. This would tend to place the disease process outside of the urinary tract. The hemoglobin of 13.4 and hematocrit of 38% are normal but not as high as one might expect in a healthy young man. There is a possibility that he could have had some mild gastrointestinal bleeding.

The lack of eosinophilia would tend to rule out parasites. Eosinophilic granuloma of the gastrointestinal tract would also be unlikely. The patient had an elevated sedimentation rate at 98 mm/hour. The patient had no history of the arthritides or history suggestive of collagen disease. He is not in the age group of multiple myeloma. Therefore, I think the elevated sedimentation rate and neutrophilic leukocytosis with shift to the left as well as the toxic granulation of the neutrophils suggests a septic process.

On the 12 panel results the normal total bilirubin again suggests there is no biliary obstruction. The

cholesterol is a little low and probably due to the patient's poor nutrition for the past several days. The elevated alkaline phosphatase, lactic dehydrogenase and transaminase suggest a space occupying mass in the liver especially with the normal total bilirubin. I doubt myocardial or skeletal muscle involvement with this pattern of enzymes. The serum ammonia is slightly elevated. I have had marked variation in these ammonia reports and do not find them very useful.

DR. BARLOW: They aren't very useful even in patients with active liver disease.

DR. BURNS: The electrolytes show a low sodium and I suspect that there is some fluid being sequestered in the right upper quadrant.

The x-rays show elevation of the right diaphragm and infiltrate in the lower lung field above the right diaphragm. We have the admission films which show these changes and I think they are rather obvious.

\*DR. W. L. JONES: Where is the air under the diaphragm near the end of the 12th rib?

DR. BURNS: I do not think it shows well on the upright and I think it is here on the lateral film. (Figure I. The elevation in the diaphragm and infiltrate in the right lower lobe certainly could be secondary to an abscess in the right upper quadrant. I do not see any changes that suggest tumor penetration of the diaphragm. There is certainly some process in the right upper quadrant which is displacing the bowel. If I am reading gas shadows right, this may be the cecum in the right upper quadrant which brings up the idea of a unicorn. Perhaps this is a malrotation of the colon with the cecum and appendix in the right upper quadrant and appendicitis giving rise to all of the symptoms.

The process that we are dealing with appears like a surgical problem. One possibility is a ruptured pep-



Figure I

Lateral decubitus film with arrow pointing to extragastric air.

\*Specialist in Internal Medicine, Sioux Valley Hospital; Clinical Faculty, School of Medicine, University of South Dakota.



tic ulcer with abscess producing extragastrintestinal air. The absence of the cecal shadow in the right lower quadrant and displacement of the colon shadows below suggests the possibility of the appendix being displaced up into the right upper quadrant. I have mentioned this before. A ruptured appendix could certainly produce the symptoms in this location. There could be an abscess under the liver or in the liver secondary to the ruptured appendix. I believe the patient has an abscess in the right upper quadrant. Chiari's syndrome with thrombosis of the hepatic veins or pyeliphebitis with infected thrombi in the portal system could be secondary to the perforated appendix.

#### DR. KENDALL BURNS' DIAGNOSIS

1. Ruptured appendix with subhepatic and subphrenic abscess in a malrotated colon with the appendix in the right upper quadrant.
2. Ruptured peptic ulcer with subhepatic and subphrenic abscess.

DR. BARLOW: There was one other procedure performed, and that was a liver lung scan. This is done by using technetium labelled to human albumin microspheres to image the lung and technetium sulfa-colloid to image the liver and spleen. In the normal patient there is a homogenous picture of uptake from the lung down to the liver without any intervening decreased activity as the liver and lung are closely opposed. In this case you can see a marked wedge shaped area of decreased activity which could represent tumor, abscess, or some abnormal lesion between the lung and liver. (Figure II)

\*DR. BARRY PITT-HART: You couldn't be sure that this wasn't just decreased uptake in the lower lung field where the pneumonia was, could you?

DR. BARLOW: No, but I think from the configuration of the scan I doubt that this was the case. We suggested a subphrenic abscess.

DR. BURNS: I think the real diagnostic procedure in this case, however, is not going to be the x-ray studies or scan. It is going to be a celiotomy in hopes of finding an abscess and what caused it.

DR. BARLOW: Dr. Quinn, what did you find at operation?

\*\*DR. ROBERT QUINN: I'm not sure I have a great deal to add as Dr. Burns handled this case very well but should have stopped when he was ahead.

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On laparotomy there were both subphrenic and subhepatic abscesses. The colon was not malrotated but there was a long retrocecal appendix which extended up toward the right upper quadrant and was perforated at the tip. The appendix was removed and the abscesses were drained. Culture of the pus showed escherichia coli. Post operatively the patient did pretty well considering the process he had and drainage stopped.

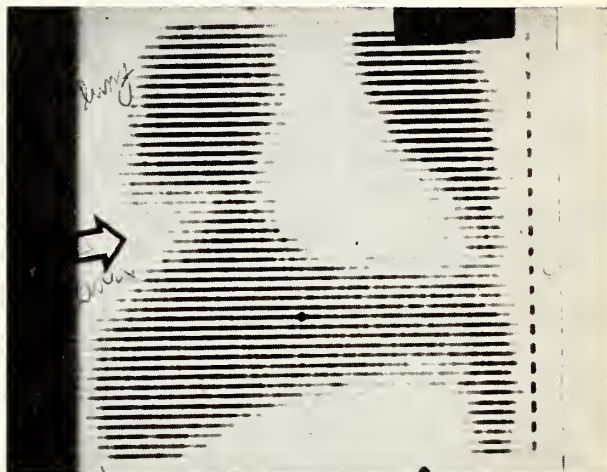


Figure II

Combined liver-lung scan showing large abnormal area of no uptake indicating the subphrenic abscess.

DR. JONES: What antibiotics did you use? I would have used gentamycin and clindamycin.

DR. QUINN: I used these and the patient seemed to respond to both of these and to the drainage. He was discharged on the 17th hospital day.

\*\*\*DR. D. L. ENSBERG: Why didn't you do the cheaper abdominal tap instead of doing a lung liver scan which is a very expensive procedure?

DR. QUINN: I do not think we would have gotten any fluid out of an abdominal tap. The abscesses were above the liver and under the diaphragm and very well walled off. It is true we were relatively sure of a diagnosis of subphrenic abscess before we operated but the scan certainly did confirm our initial impression.

DR. ENSBERG: If this was a large abscess, I would think that you could easily have entered it with a needle.

DR. QUINN: Well, there was a small subhepatic abscess but this was very thin. I think it would have been hard to get to this subhepatic abscess with a needle.

DR. BURNS: Could the patient take fluids orally before surgery?

DR. QUINN: Yes, I think an interesting thing in this case is that this patient always had an elevated diaphragm and this can throw you off a little bit. We had x-rays from 10 years previously.

DR. BARLOW: I thought that this was an interesting case from the standpoint that appendicitis can still be a complicated diagnostic problem and lead to serious disease. It is still not infrequent for us to see an occasional death from ruptured acute appendicitis.

#### FINAL ANATOMIC DIAGNOSES

Ruptured acute appendicitis with subphrenic and subhepatic abscesses.

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# MEDICAL ASSOCIATION

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News Notes • Changes • Births • News

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**C. B. McVay, M. D.**, Yankton, has been named chairman and professor of the Department of Surgery at the University of South Dakota School of Medicine effective July 1. Dr. McVay received his M. D. degree in 1938 from Northwestern University, Chicago, and received his internship and residency training in surgery at the University of Michigan. He was certified by the American Board of Surgery in 1946 and established his practice in Yankton at that time. Dr. McVay has been chairman of surgery at the Yankton Clinic and Sacred Heart Hospital and has been associate professor of Anatomy and clinical professor of Surgery at the School of Medicine since 1946.

\* \* \* \*

The South Dakota Urological Society had its founding meeting June 1 in Aberdeen, South Dakota. **James Hoskins, M.D.**, Sioux Falls, was elected president, **Roger Millea, M.D.**, Rapid City, was elected vice president and **B. J. Begley, M.D.**, Sioux Falls, was elected secretary-treasurer. At present there are thirteen active members in this organization.

\* \* \* \*

**Lowell Hyland, M.D.**, Sioux Falls allergist, spoke at the Northwest District Medical Society meeting in Mobridge.

**Robert Thompson, M. D.**, Yankton; **W. R. Taylor, M. D.**, Aberdeen; and **W. O. Rossing, M. D.**, Sioux Falls, represented the South Dakota internists at the recent annual meeting of the American College of Physicians in New York City. Dr. Rossing was inducted as a Fellow at the general convocation and opening ceremonies. Dr. Thompson currently serves as ACP Governor for the state of South Dakota.

\* \* \* \*

**Frank Alvine, M.D.**, Sioux Falls, has been named a board certified Diplomate of the American Board of Orthopedic Surgery.

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SOUTH DAKOTA  
MEDICAL SCHOOL  
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**E. H. Heinrichs, M. D.**, Watertown, was elected president of the South Dakota Heart Association at its annual meeting in Sioux Falls. **Jay Hubner, M. D.**, Yankton, was elected to the Board of Directors.

\* \* \* \*

**L. W. Holland, M.D.**, Chamberlain, has been appointed a clinical associate professor in the Department of Community Medicine by the Medical School Council on Academic and Professional Qualifications of the University of North Dakota. Dr. Holland, a board certified Diplomate of the American College of Family Practice, will be teaching in the Medex Program.

\* \* \* \*

**William O. Hanson, M.D.** and **David J. Buchanan, M.D.**, Huron, have been re-elected to active membership in the American Academy of Family Physicians.

\* \* \* \*

**Walter M. Gysin, M.D.**, Watertown, was honored by the members of the Watertown District Medical Society at a party commemorating him for fifty years as a licensed physician. Dr. Gysin also was granted honorary life membership in the South Dakota State Medical Association.

# The more physicians consider the hemodynamics of lowering blood pressure...

Most physicians now agree on the importance of reducing blood pressure in the hypertensive patient. But high blood pressure exists, of course, only as part of a complete clinical picture. The hemodynamic profile of well-established essential hypertension is characterized by elevated arterial blood pressure, normal cardiac output, and increased total peripheral resistance.

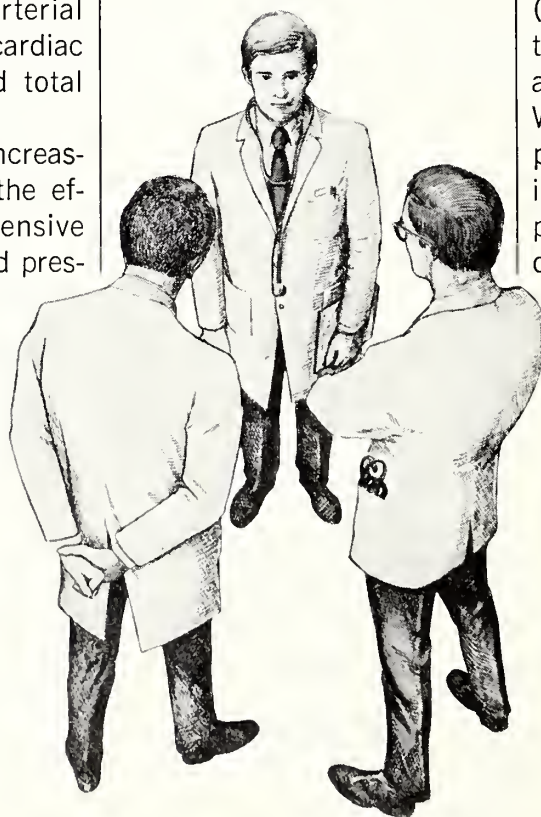
And so, physicians are increasingly concerned with the effects of an antihypertensive agent not only on blood pres-

sure itself but also on the hemodynamic pattern—in short, with the total effect of the drug. *Does it indeed help lower blood pressure effectively? Is peripheral resistance reduced? Are cardiac output and renal functions main-*

*tained? And, also, is there likely to be drug-induced postural hypotension serious enough to pose a threat to the patient's cerebrovascular status?*

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# Letters to the Editor

Again, this year I am compiling case reports of allergic reactions to biting insects, i.e., mosquitoes, fleas, gnats, kissing bugs, bedbugs, chiggers, black flies, horseflies, sandflies, deerflies, etc. I am also interested in reactions to the Imported and Southern Fire Ants.

I would like physicians to supply me with case reports of those patients who have had reactions to such insects. Include in your reports, the type of reaction and complications, if any, the age, sex, and race of the patient, the site of the bite(s), the season of the year, the immediate symptoms, the skin test results, desensitization results, if any, and any associated other allergies. Send this information to the following address—

Claude A. Frazier, M.D.  
4-C Doctors' Park  
Asheville, NC 28801

The medical genetics research team in the Department of Preventive Medicine at Creighton University School of Medicine has received funds for the study of Aryl Hydrocarbon Hydroxylase (AHH) in patients from families prone to lung cancer. The inducibility of AHH in lymphocytes has been shown to be a significant genetic marker in the study of 50 patients with lung cancer compared with appropriate controls by Kellermann and Shaw (*New Eng. J. Med.* 289:934, 1973). Needed are studies of close relatives from families prone to bronchogenic carcinoma. We believe that this study could harbor important information for carcinogenesis as well as for cancer control.

We will greatly appreciate receiving information about patients and/or their families wherein lung cancer appears to be increased in these families. AHH as well as pedigree verification will be performed and there will be absolutely no charge for any of these services. In addition, a detailed report of all findings will be forwarded to the concerned physicians at the completion of these studies. Your assistance in this study will be deeply appreciated by all of us.

Henry T. Lynch, M.D.  
Professor and Chairman  
Department of Preventive  
Medicine & Public Health  
Creighton University School  
of Medicine  
Omaha, NE 68178

---

## 42nd ANNUAL POSTGRADUATE ASSEMBLY of the OMAHA MID-WEST CLINICAL SOCIETY

November 11, 12, 13, 1974  
Omaha Hilton Hotel

for additional information contact:

Mrs. Mary E. Pilloud  
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1040 Medical Arts Building  
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## SOUTH DAKOTA LUNG ASSOCIATION ANNUAL MEETING

October 7, 1974  
Guest House, Watertown, SD

Registration — 8:00 a.m.  
Sessions — 9:00 a.m.

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## ELEVENTH ANNUAL SYMPOSIUM ON KIDNEY DISEASE

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has been established by the South Dakota Medical School Endowment Association. Among other activities, the Alumni Association will serve as a source of information for graduates and will help organize class reunions.

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608 West Avenue, North  
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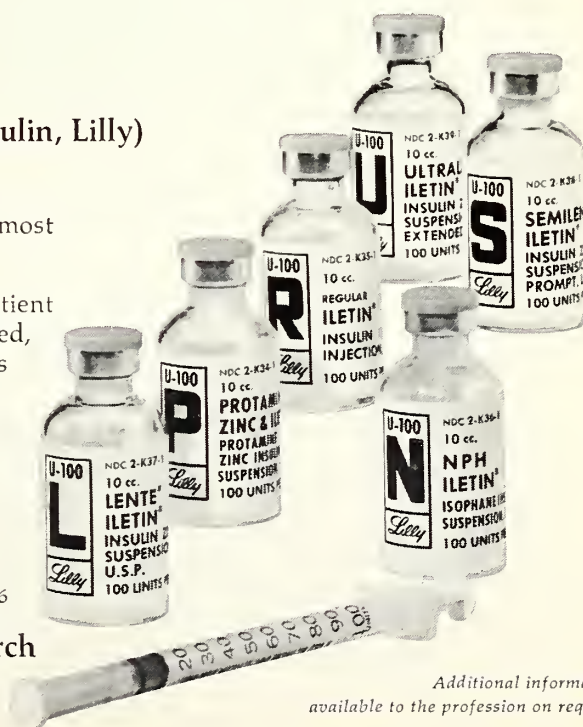
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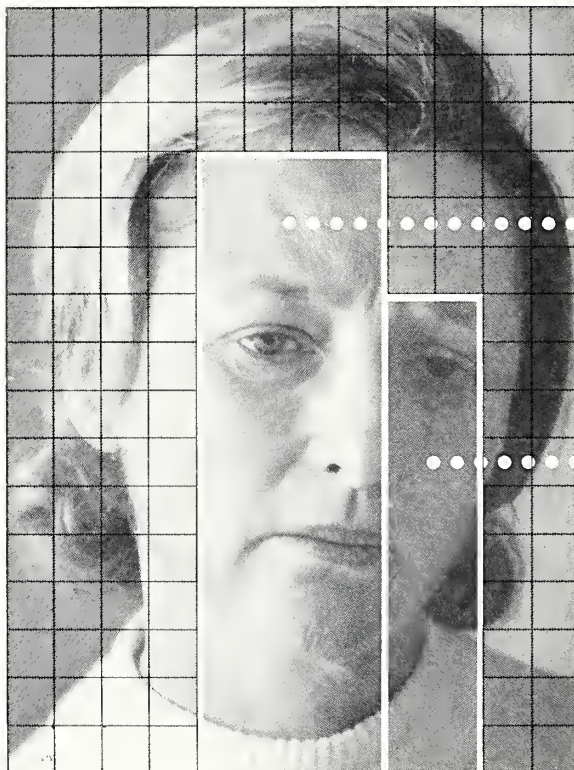
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**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

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orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful



# respond to one

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Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

1. Henry BW, et al: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, et al: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle



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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## TWENTY-SEVEN YEAR OLD MALE WITH PAIN IN LEFT SHOULDER AND CHEST

Robert H. Quinn, M.D.\*  
*Surgeon—Discusser*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist—Editor*

### CASE NO. 74-990

This 27-year old Caucasian male entered Sioux Valley Hospital with the chief complaint of pain in the left shoulder and chest, and shortness of breath which was progressive over the past 48 hours.

The patient said he had been in quite good health until the morning before admission when he had developed pain in both shoulders and his back. This pain was deep, aching and progressed during the day and was severe enough to keep him awake the entire night. There were no sweats, fever, nausea, vomiting, constipation, diarrhea, or other pain. The patient did notice, however, that he had a progressive shortness of breath since the onset of the pain. He saw his local physician who took a chest x-ray and noted an enlarged heart. The patient gave a history of having had a perforated ulcer one year previously. An incidental appendectomy was done at that time. He denied previous or present cough or hemoptysis.

**PHYSICAL EXAMINATION:** Revealed a well-nourished male who was in acute distress in a semi-sitting position having difficulty breathing. There was slight diaphoresis as well. Pulse was 64 per minute and regular, respiration 16 per minute, blood pressure 140 systolic over 90 diastolic, temperature was 100°F., height 6 foot, weight 245 lbs. Examination of the head and neck revealed no abnormalities; thyroid was not palpable. Examination of the chest revealed good respiratory excursions. The breath sounds were clear with some decreased resonance to percussion and fine crackling rales at the left base. The heart had a regular rhythm but the heart sounds were distant and there was an audible friction rub. The point of maximum intensity of the heart on percussion was 2 cm. lateral to the left mid-clavicular line. There was no pulses paradoxicus. Examination of the abdomen revealed no tenderness or organomegaly. The genitalia were normal male. There was no clubbing or cyanosis in the hands or feet. Neurologic examination was unremarkable, but the patient did have an upper respiratory tract infection 6 weeks prior to admission.

**LABORATORY DATA:** Routine urinalysis: yellow, clear, specific gravity 1.040, pH 5.0, trace protein, negative for glucose, ketones, bile, hemoglobin, Sediment, 6 to 8 white

cells/hpf and 0 to 2 red cells/hpf. There was a large amount of mucous. Hemoglobin 16.1 gms/dl, red blood count 4.5 million/mm<sup>3</sup>. Hematocrit 40 vols/dl, mean corpuscular hemoglobin 35 micromicrograms, mean corpuscular volume 89 cubic micra, mean corpuscular hemoglobin concentration 36%. Total leukocyte count 16,200/mm<sup>3</sup> with 79% segmented neutrophils, 1% neutrophilic bands, 20% lymphocytes. The red cells appeared normochromic, normocytic on smear. The platelets appeared normal in number and morphology. Erythrocyte sedimentation rate was 12 mm/hr; a C-reactive protein was positive. A serologic test for syphilis was nonreactive. The total protein, calcium, inorganic phosphorus, cholesterol, glucose, blood urea nitrogen, uric acid, creatinine, total bilirubin, alk.phos., and transaminase were found to be within normal limits. The lactic dehydrogenase was elevated to 440 units/dl (normal 90-220 units/dl). PH 7.34, PCO<sub>2</sub> 51 mm of Hg, CO<sub>2</sub> content 28 meq/L, Sodium 132 meq/L, potassium 4.2 meq/L, chloride 106 meq/L, PO<sub>2</sub> 77 mm of Hg, O<sub>2</sub> saturation 95%. Anti-streptolysin O titer was less than 250 todd units. A serum electrophoresis showed a total protein of 2.9 gms/dl, with an alpha one globulin 0.6 gms/dl, alpha two globulin 1.3 gms/dl, beta globulin 1.0 gms/dl and gamma globulin 1.3 gms/dl. Reports on thoracentesis fluid were class II. A red count on thoracentesis fluid was 1260/mm<sup>3</sup>, white count was 945/mm<sup>3</sup> with 50% polys and 50 mononuclears. Protein was 5.3 gms/dl and sugar 133 mgs/dl. A culture of the chest fluid for anaerobic and anaerobic organisms showed no growth in 72 hours. A fluorescent antinuclear antibody test and LE preps were negative. Sputum and throat cultures were unremarkable. A heart scan showed no evidence of pericardial effusion. Left bronchial and scalene lymph node biopsies revealed no diagnostic abnormalities. A cold agglutinin titer was 1 to 4. An electrocardiogram showed sinus tachycardia with minimal junctional ST segment elevation consistent with suspected pericarditis. Later ECG did not show evidence of pericarditis. Chest films showed cardiomegaly without signs of congestive failure. There was an infiltrative process with pleural effusion on the left. There was a suggestion of a possibility of a mass within the hilum. A repeat x-ray film on the following day showed complete opacification in the left hemithorax thought to be due to pleural fluid. There was no shift to the mediastinum. Tomography of the left lung field after removal of fluid showed an abnormal mass in the left lower chest. Infusion nephrotomography revealed a wider lower pole right kidney which was considered a normal variant.

**HOSPITAL COURSE:** After admission, the patient underwent bronchoscopy, scalene node biopsy, two thoracenteses, and mediastinoscopy but no definite diagnosis was made. The patient developed fever up to 102.6° intermittently.

\*General Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.

Pulmonary function tests revealed a slightly increased residual volume and reduced total lung capacity. There was a 70% of predicted maximal voluntary ventilation and slight hypoxemia before bronchodilator therapy. All lung functions appeared slightly reduced. Because of a persistent abnormal mass on x-ray, an exploratory thorocotomy was carried out 21 days after admission.

DR. R. H. QUINN: This was a 27-year old Caucasian male who had fairly abrupt onset of left shoulder and chest pain and shortness of breath for two days. This had kept him awake at night. An x-ray had been taken by his local physician and showed an enlarged heart. He did have a history of a perforated ulcer one year previously. On physical examination, he was a big man who had mild fever up to 100°F. and was having difficulty breathing. The only significant chest finding was decreased resonance to percussion and fine crackling rales at the left base. He had a pericardial friction rub but no pulsus paradoxicus. The blood pressure was 140/90. In the laboratory data there was trace albuminuria and a large amount of mucus. The white count was elevated with a shift to the left. Surprisingly the erythrocyte sedimentation rate was within normal limits. The C-reactive protein was positive. The lactic dehydrogenase was elevated. The PO<sub>2</sub> was quite good considering the patient's shortness of breath at 77 mm of Hg. There were an extensive series of x-rays which will be shown later. I do not see skin tests reported here.

DR. BARLOW: A PPD skin test for tuberculosis and skin tests for histioplasmosis and coccidioidomycosis were negative.

DR. QUINN: I think we have to evaluate what kind of fluid was found in the left pleural effusion—a transudate or an exudate? Transudates occur secondary to congestive heart failure, nephrotic syndrome, hypoalbuminemia, myxedema, anemia, pancreatic, or liver disease. On the other hand, exudates in the pleural cavity are secondary to a bacterial infection, tuberculosis, rheumatic fever, malignancy, lupus erythematosus. The specific gravity of a transudate is below 1.016 usually and the protein is low.

DR. BARLOW: The protein in this case would put it into the category of the exudate.

DR. QUINN: The red and white count from the pleural fluid was not much help to me. There were 50% polys and 50% mononuclear cells and no mention of eosinophilia. The sugar in the pleural fluid was 133 mg/dl. The sugar is usually depressed in bacterial infection or tuberculosis and is often also decreased in acute rheumatic fever or rheumatoid arthritis. In malignancy the pleural fluid is grossly bloody in 80% to 85% of the cases. This fluid was

not grossly bloody. The absence of grossly bloody fluid does not rule out malignancy but makes it less likely. Therefore, this fluid is an exudate since the total protein is raised. This would be consistent with malignancy, pulmonary embolus or lupus erythematosus. In regard to the last diagnosis, the fluorescent antinuclear antibody test (FANA) and L.E. preps were negative. I think we can rule out lupus in this case. Cultures for aerobic and anaerobic organisms were also negative ruling out a bacterial infection.

\*DR. DICK JONGEWAARD: Perhaps I should mention that in addition to these pleural fluids, pleural biopsies were also negative.

DR. QUINN: I'm sure it would have been mentioned if this fluid was chylous. This white opaque fluid would occur with trauma or malignancies that caused obstruction of the thoracic duct. I think we can rule out most of the causes of pleural effusions with transudates. The patient had no signs or symptoms of congestive heart failure. I have nothing to suggest liver disease or hypoproteinemia. Myxedema is unlikely.

Amyloidosis and myeloma are highly unlikely here. In a woman, I would have suggested a Meig's syndrome but that is, of course, ruled out in this young man. There is no evidence of blood dyscrasia. This is not the usual picture of sarcoidosis which involves the lungs more diffusely. Tuberculosis could cause a sudden pleural effusion in a young person. I must mention polyarteritis nodosa and Wegener's granulomatosis but I have no data to substantiate those diagnoses. Rheumatoid arthritis can cause a pleural effusion and this may occur before any joint symptoms but this is rare. I will not be able to rule out tuberculosis. I assume that cultures of sputum and pleural fluid were done and were negative.

DR. BARLOW: Yes, they were done and reported four to six weeks later and were negative.

DR. QUINN: Another possibility is a malignant lymphoma. This can cause a pleural effusion. Malignancy of some other type like a carcinoma which would be very unusual for the patient's age group.

We must always think of a pulmonary fungus infection. Histoplasmosis can occur in this region of the country and could produce this picture with pericardial and pleural effusion. There are complement fixation tests and immunofluorescent tests for these organisms. I do not know whether they were done in this case or not. Coccidioidomycosis and blastomycosis could also produce this picture. I do not know where this patient was from. This is not the area for coccidioidomycosis. This certainly could be North American blastomycosis but pleural effusions are uncommon with this disease.

Mesothelioma is a possibility. This can involve

\*Intern, Sioux Valley Hospital.



the pericardium and the pleura. A pleural biopsy was negative but a mesothelioma could have been missed.

In summary I am left with a possible disseminated fungus infection such as histoplasmosis or mesothelioma or lymphoma.

DR. BARLOW: After the protocol was read, there were reports on fungus cultures of sputum and pleural fluid as well as for tuberculosis. All cultures were negative.

#### DR. R. H. QUINN'S DIAGNOSIS:

##### *Possible Mesothelioma or Malignant Lymphoma*

DR. BARLOW: Dr. Breit, would you show the x-rays?

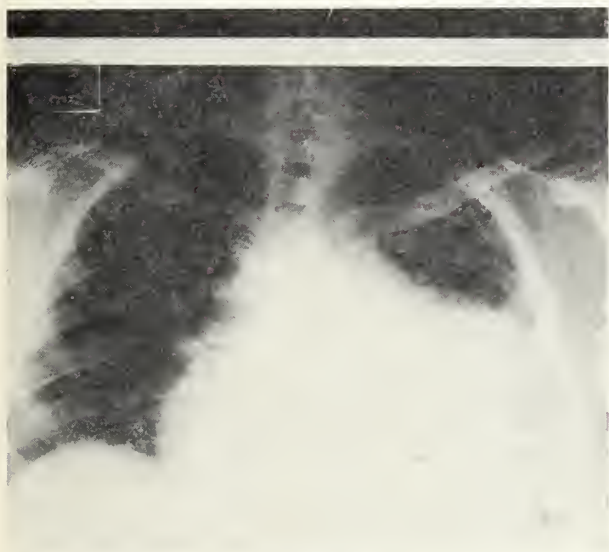


Figure I

Chest film taken at height of symptoms. A fluid level can be seen at left base as well as marked enlarged "heart" shadow.

\*DR. DON BREIT: This was an interesting set of x-ray films. The initial films show a markedly enlarged heart shadow with some suggestive infiltrate at the left base. With the size of the heart, one would expect congestive changes elsewhere in the lungs from congestive heart failure. (Fig. I). However, these congestive changes are not present. The process got worse on the left with more pleural effusion but this was tapped and we now see a large shadow in the region of the anterior mediastinum. (Fig. II). Some of the other chest films definitely show this lesion to be a mass and not a pericardial effusion. On some of the films I think you can definitely distinguish the cardiac border from the mass. The mass appears fairly well circumscribed. What are

\*Radiologist, Sioux Valley Hospital.

\*\*Intern, Sioux Valley Hospital.

\*\*\*Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

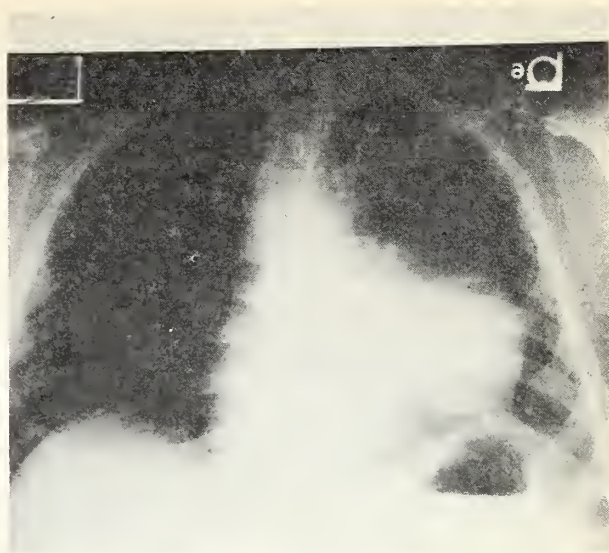


Figure II

Chest film taken after pleural fluid has been removed. Mass to left of heart can be seen.

the common causes of masses in the anterior mediastinum? Carcinoma would be unlikely in this age group. One must consider a lymphoma, teratoma, mesothelioma or thymoma. Neurogenic tumors occur usually in the posterior mediastinum but can occur in the anterior mediastinum.

DR. QUINN: I guess I would have to make my final diagnosis a lymphoma of the anterior mediastinum. This is strictly on the basis of incidence and any of the other tumors that you have mentioned certainly could produce this picture.

\*\*DR. JERRY BLAKE: The pericardial scan didn't help in this case?

DR. BARLOW: We thought the scan was negative. If there was pericardial effusion, it was not enough for us to detect an effusion. The scan certainly did not show the typical pattern of a massive pericardial effusion.

\*\*\*DR. D.L. ENSBERG: This patient had a rather explosive course with a sudden onset of fluid. When the fluid was removed, it did not recur, even though it was an inflammatory type or a Class II type of fluid. This was hard to reconcile.

DR. BARLOW: An anterior mediastinal mass was removed in surgery. On cut section, the mass was totally necrotic and this picture (Fig. III) shows that over 99% of the mass was composed of brown necrotic material. We couldn't make a diagnosis at the time of surgery. Dr. Ensberg would you like to describe your operative findings?

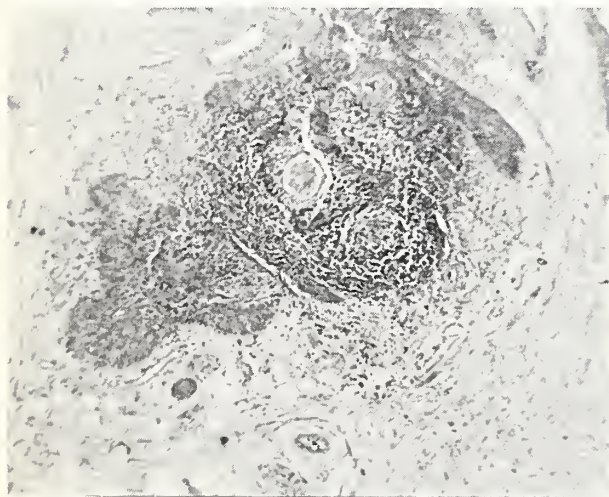
DR. ENSBERG: As you can see this was a huge mass. It was densely adherent to the lung on several sides and to the pericardium. It was least adherent to the diaphragm. The phrenic nerve was stretched over the surface of this mass. I was able to detect a

plane between the hilum and lung parenchyma and the mass and was able to separate it from the pericardium with some difficulty. It did extend up into the neck over the aorta and this proved to be the most difficult part of the dissection. It was easy to note that the mass was necrotic as some material oozed from a portion of it on occasion. I finally found the mass attached at only one point to the thymus, high in the superior mediastinum at the level of the first rib and divided it here.



**Figure III**

Cut section of mediastinal mass showing extensive necrosis.



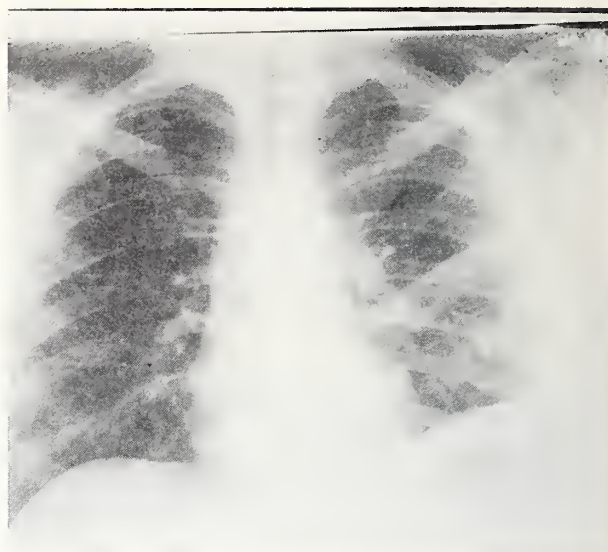
**Figure IV**

Mixture of lymphocytes and epithelial cells shown in area deep in mediastinum.

DR. BARLOW: After we noted that the mass was necrotic we had to take multiple sections to try to determine the nature of the mass. Most of the sections were useless but a few showed areas of a mixture of lymphocytes and epithelial cells (Fig. IV). This certainly was consistent with a thymoma. It is very difficult to determine whether this particular tumor is benign and certainly it could recur locally.

\*Radiologist, Sioux Valley Hospital.

The fact that the tumor was markedly adherent to surrounding structures and the fact that there was abundant necrosis certainly would make me think that this tumor has the ability to recur.



**Figure V**

Chest film taken after surgery. The marked clearing due to removal of tumor is obvious.

DR. BREIT: This is a postoperative film (Fig. V). You can note the marked change. The big problem in this case was whether or not to give postoperative radiotherapy. Since the dosage of radiotherapy would be in the vicinity of 4,000 rads and since there are considerable complications to this amount of radiation including a transverse myelitis and radiation pneumonitis or pericarditis, I went to the journals. From review of the literature I can only conclude that all thymomas are potentially malignant and radiotherapy is recommended by almost everybody. Histologically the pathologist cannot often distinguish between benign and malignant tumor and the behavior of this tumor has to be judged on whether it is infiltrating or not. This tumor apparently was infiltrating but I should mention the fact that even tumors which do not infiltrate can recur. Metastases outside the chest are uncommon. After consultation with the surgeon, it was decided to treat the whole bed of the tumor.

\*DR. M. FRANK PETEREIT: Would you describe this tumor as high, intermediate or low grade of radiosensitivity and what are the possibilities of radiation pericarditis at this dosage.

DR. BREIT: The lymphocytic portion should be very radiosensitive but the epithelial portion is totally unpredictable as to its radio-resistance or radiosensitivity. There are complications including pericarditis, esophagitis and pneumonitis at this dosage range. Transverse myelitis is the most dreaded complication.



DR. PETEREIT: Would you have treated this tumor in a similar fashion if it had not been invasive.

DR. BREIT: I would have been very hesitant to do that although I think there is a tendency on the part of some radiotherapists to treat all thymomas with radiotherapy. The problem is that thymoma is not a very common tumor and it is hard to get statistically significant data because of the small numbers involved.

DR. BARLOW: I would like to make a few comments about thymomas. There are a number of tumors that can occur in the anterior mediastinum. The thymomas should be considered only those which are a mixture of lymphocytes and epithelial cells. Such tumors such as lymphomas, undifferentiated carcinomas, teratomas of various degrees of malignancy, and granulomatous thymoma (which I feel is nodular sclerosing Hodgkin's disease) should be excluded. All of these would seem to lower the prognosis. Thymomas usually do not present as in this case. Often they are asymptomatic masses found on chest x-ray or may present as a cause of obstruction of the superior vena cava or a bronchus. Weakness, malaise, and weight loss may also be presenting symptoms but not usually in such an acute manner as in this case.

Myasthenia gravis can also be a presenting symptom in a patient with a thymoma. Thymomas rarely metastasize as has been pointed out and usually tend to recur locally if they recur at all. The difference between benign and malignant thymomas is basically whether there is invasion of the capsule or not. Most series tend to indicate the prognosis of thymomas depends on the presence or absence of local invasion of the capsule and the presence or absence of myasthenia gravis. This case was handled like most of those in the literature by as complete as possible surgical removal followed by radiation. The adherence of the tumor, the necrotic nature of the tumor, and the large size would all tend to make me think that the patient should indeed have received postoperative radiation.

One more interesting point is that thymomas may be associated with a variety of other conditions in addition to myasthenia gravis. These include red cell agenesia, pancytopenia, hypogammaglobulinemia, Cushing's disease and granulomatous myocarditis. Myasthenia gravis and Cushing's disease seems to occur with the lymphoepithelial variant such as the case today while the other conditions tend to occur with the spindle cell variety.

DR. ENSBERG: I think if we had taken a chest x-ray several weeks or even months before the patient

had symptoms, we would have seen a picture very much like that which occurred after we cleared all the fluid out of the left pleural cavity. For some reason this tumor underwent total necrosis, gave rise to all the symptoms, created an inflammatory process, and then resolved. The patient was free of symptoms before surgery.

\*DR. GREG MAGNUSSON: What made it undergo necrosis?

DR. ENSBERG: I don't know.

DR. JONGEWAARD: Don't you think that this inflammatory process could have caused the adhesions to the surrounding structures instead of real infiltration by the tumor.

DR. ENSBERG: That certainly is a strong possibility. I can't say for sure I saw any real tumor infiltrating into the surrounding tissue during my dissection. My clinical impression of this patient before surgery was that he had a malignant tumor probably of the lung. I do have one question and that is what the consequences will be of my leaving a small stump of thymus. I do not feel that I could have removed this safely as it was too high.

DR. JONGEWAARD: What would be the treatment if this patient were to have recurrent tumor?

DR. BREIT: I suppose you would have to go into the chest and remove it.

DR. ENSBERG: The next time I certainly would approach this tumor through a sternal splitting incision.

## FINAL ANATOMIC DIAGNOSIS

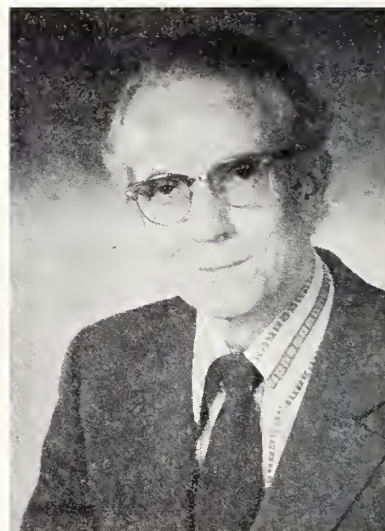
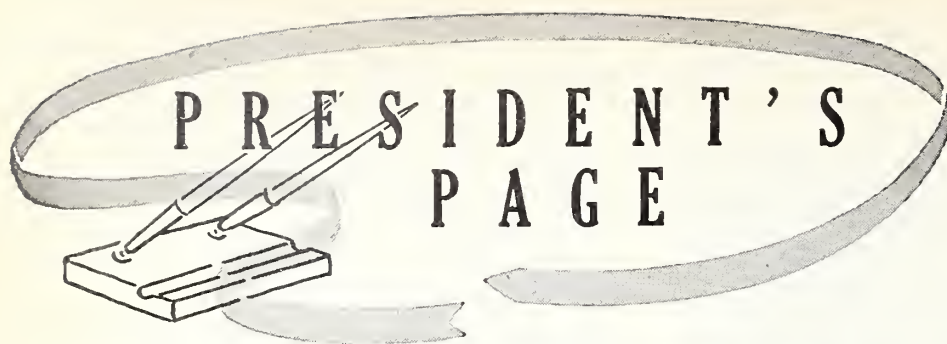
### Lymphoepithelial Thymoma With Extensive Necrosis

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\* Intern, Sioux Valley Hospital.

# P R E S I D E N T ' S P A G E



Appearing on NBC's *Meet the Press*, Senator Russell B. Long (D-La.) and Representative Wilbur D. Mills (D-Ark.) agreed that a national health insurance bill will be passed by Congress this year.

President Ford in his speech urged Congress to approve National Health Insurance (N.H.I.) this year. . . . "Why don't we write a good health bill on the statute books before this Congress adjourns?"

Representative Mills and his Ways and Means Committee of the House (where the bill must originate) were unable to reach a satisfactory compromise bill and recessed the committee meetings for three weeks. Both Representative Mills and Senator Long have pledged to President Ford that a health bill will be acted upon this year, even though it requires a post-election, lame-duck session of Congress to do it. Word has come down from labor headquarters that action on N.H.I. must be staved off this year. Inflation will be a definite, though undetermined, factor in the proposed legislation.

The legislation in its final form will be a compromise of the eighteen proposals before Congress. These vary from the AMA's voluntary Mediredit plan, the White House plan (where the boss must buy a policy and pay 75 percent or more of the premium), the Kennedy plan (all health care for free (taxes)), the Kennedy-Griffith's plan (very similar except it would restrict patients from switching doctors and other providers of medical care), to the Long-Ribicoff plan (which provides Medicare benefits for the poor and catastrophic coverage for all).

In this critical period of U. S. medicine, we may well follow the example of AMA's President Todd in contacting the members of Congress, about the necessity of securing physician cooperation in any N.H.I. program by tailoring the bill to meet objections by health providers insofar as possible. Contact each of your congressional delegation *now* and talk it over with them. Let them know your thoughts, your attitudes and your wishes. Next month may be too late!

Sincerely,  
Robert E. Van Demark, M.D.  
President, South Dakota  
State Medical Association





## A PHYSICIAN'S ASSISTANT PROGRAM FOR SOUTH DAKOTA\*

By  
**Robert H. Hayes, M. D.**  
and  
**Robert S. Westaby, M. D.**

Certainly no one can discuss the topic of physician's assistants unless he has read the book, *THE PHYSICIAN'S ASSISTANT TODAY AND TOMORROW*, by Sadler, Sadler, and Bliss, Yale University Press, 1972. These authors, a physician, a lawyer, and a nurse have combined their talents and knowledge to provide the best resources for the beginning dialogue regarding physician's assistants.

In this book and in most of the literature on "Physician's Assistants" is a generic term which includes a range of mid-level health workers variously named: physician's assistants (Duke and related models), "Medex," nurse clinicians, pediatric nurse associates, and nurse practitioners, etc.

Our interest in South Dakota began in 1967 when the Regional Medical Program was born. As the physicians and health providers in that group began to try to create plans for the battle against heart, cancer, and stroke (P.L. 89-239) they quickly saw that nothing could be done without more health manpower than we had. Indeed, the Nebraska-South Dakota Regional Medical Program authorized Dr. Robert Hayes to travel to Duke University in North Carolina to visit the first physician's assistant program in the country which was pioneered by Dr. Eugene Stead, Jr.

In South Dakota we recognized that before we were going to be able to get permission for a clinical medical school which would more adequately supply doctors for South Dakota we were going to have to be able to develop some sort of "physician ex-

tender." This was envisioned as being able to be accomplished by "computers," by training paramedical personnel to take over some of the practice of medicine, or by developing a new category of person who could assist the physician in his provision of services. We quickly found out that computer assistance was not going to help provide services for patients who were not able to be seen by the physician.

Looking back into what we had done in South Dakota we discovered that we had nurse anesthesia for a period prior to World War II. We had also been accustomed to delegating many parts of the practice of medicine to our office and hospital nurses. In the period of 1966-1970 we began to develop intensive coronary care units which depended upon nurses carrying out diagnosis and treatment in those units. It became apparent that even in South Dakota we did have some precedents to carefully begin to depart from what we had known as the medical practice system.

Perhaps it was the Vietnam War and the unrest which accompanied it that highlighted the use of returning corpsmen for help in the delivery of health services. It is more likely that the public medium of television has been able to show 80,000,000 instant viewers that those poor corpsmen who had served in that "unpopular Asian War" could perform at home as well as on the battlefield. This quickly became a political bonanza. Even our own AMA joined in support of the physician's assistant programs and issued full-page advertisements in the national newspapers. Whatever combination, there

\*Presented at 1974 Annual Meeting, South Dakota State Medical Association.

could be no doubt even in 1970-1971 that there had been success in the physician's assistant idea capturing the imagination of not only the public but also health professionals. It was felt that South Dakota could be greatly aided by a physician's assistant program for the following reasons so well stated in Sadler, Sadler, and Bliss:<sup>1</sup>

1) The physician's assistant is viewed as a creative solution to our health manpower shortage. The doctor deficit is one of the most discussed and documented aspects of our current scene. Numerous efforts are under way to shorten the medical curriculum, develop varied and more flexible "track systems," expand medical school size, and create new schools. Indeed, the Carnegie Commission Report outlines a massive plan to educate 50 percent more physicians by 1980.<sup>2</sup>

For any of these efforts to be successful, the effectiveness of practicing physicians must also be maximized. Studies have demonstrated that much of what a physician does during his evaluation and care for patients is routine and repetitious and can be assumed by specially trained personnel. A detailed patient history, a physical examination, many diagnostic and therapeutic procedures, can all be performed competently, and in some cases more effectively, by well-trained persons who have the time to devote to them.<sup>3</sup>

2) At a time when we are fighting an unpopular war, physician's assistant programs promise civilian jobs to experienced returning military servicemen. The designers of the physician's assistant concept recognize that a large manpower pool is available from the military services. Approximately 30,000 men who have some medical experience are discharged each year. Of these, 6,000 have had extensive medical training and independent duty experience.<sup>4</sup> Such individuals typically have been lost to our credential-happy civilian health care system because of their lack of formal education in accepted civilian medical centers. Physician's assistant programs promise to help translate these hard-earned skills into useful civilian functions.

3) The soaring costs of medical education can be checked and even reduced by the use of a physician's assistant who can be trained in a relatively short period of time. Clearly, it is much less expensive to train a physician's assistant over a two year span than to train one physician over an eight-to-ten-year period. Although some medical schools now give the M.D. degree after three years, an additional three to six years are required for the training of a physician specialist.

4) Physician services which can be provided by non-physicians should save the consumer money. If

adequate payment schemes, such as prepaid group practice, are devised, the cost of medical care can be reduced through the utilization of less costly personnel.

5) The physician's assistant can contribute to quality medical care by allowing more patients to be seen under more optimal conditions. Less hurried examination should provide more accurate diagnosis and permit the physician to concentrate on those patients who require his special knowledge and skills. The physician assistant can also help to increase quality of care by freeing physician time to participate in continuing education and study.<sup>5</sup> Some physicians may not utilize such free time for continuing education and would prefer instead to relax and enjoy whatever extra moments are made available. If this leads to greater physician longevity, we will have helped to preserve the highest level of medical manpower resource.

6) The physician's assistant is viewed as providing more manpower for primary, preventive, and emergency care needs. With our increasing emphasis on specialization and subspecialization, most physicians are being educated beyond primary and general practice functions. The development toward subspecialization is understandable because with advancing technology, the explosion of medical knowledge, and the expansion of highly sophisticated medical centers better care can be provided for complex medical problems. But in our rush to specialization, primary, preventive, and emergency care have been neglected.

Certainly of all these six items which can be thought of as promises (as stated by the author) this last one was the one which we in South Dakota were particularly interested in because it would meet one of our pressing needs. Almost equally as important was number 5 which we felt would lead to greater physician longevity and, in turn, we agreed would preserve medical manpower.

We were aware that there were a variety of programs and many of them bore different names:

1) Established in 1965, the Duke Physician's Assistant Program (now Physician's Associate) was originally designed to train assistants to overworked general practitioners.<sup>6</sup> The 24-month program, developed by Dr. Eugene Stead, Professor of Medicine, now offers its graduates a range of options in primary and specialty care.<sup>7</sup>

2) The University of Washington's Medex program was founded in 1969 for the returning military corpsman who possesses extensive medical training and independent duty experience. Developed by Dr. Richard Smith, Associate Professor of Preventive Medicine, the program includes three months of



university-based education followed by twelve months of preceptorship with a practicing physician. The objective is to mold each Medex to a particular physician's practice. Emphasis is placed on primary care practice in rural areas.<sup>8</sup>

3) The Orthopedic Assistant (1969) and Urologic Physician's Assistant (1970) are two-year programs designed to train personnel to work directly for specialists. These pilot programs, located in San Francisco and Cincinnati, respectively, have been received with enthusiasm by the medical specialty societies concerned.

4) A four-month "health assistants" training program is sponsored by Project Hope in Laredo, Texas (1970). The only requirement for entry is that the student be eighteen years of age. (Eight of the eleven students who entered the first class lacking high school diplomas also earned their General Equivalency Diploma Certificate upon completion of the program.)

5) The Pediatric Nurse Practitioner Program, inaugurated at the University of Colorado in 1965 by Dr. Henry Silver, Professor of Pediatrics, offers supervised opportunities for baccalaureate nurses to assume much of well-baby care and the management of simple pediatric illnesses, previously performed only by pediatricians. Four months of training are required.<sup>9</sup>

6) The Child Health Associate Program (1969), also developed by Dr. Silver, prepares individuals to "practice pediatrics" under close physician supervision as defined under a new Colorado law. Students are admitted after two years of college for a three-year sequence of professional studies, including a year of internship. A baccalaureate degree is awarded.<sup>10</sup>

7) A variety of post-baccalaureate (certificate and master's) nurse clinician programs are designed to expand nursing practice and encompass areas traditionally reserved only for the physician. Although these nurse-expansion programs are not officially designated "physician's assistant," they represent somewhat analogous attempts to expand the functions of experienced health personnel in direct patient care areas. Nurse clinicians are trained in one to two years to acquire "physician-like" skills and work under physician supervision and control.<sup>11</sup>

Then the battle began about how to name these extensions of the physician. In 1970 the National Congress on Health Manpower (sponsored by the AMA's Council on Health Manpower) sought to develop uniform terminology for the many emerging programs. "Associate" was decided upon. However, the AMA's House of Delegates (its congress) rejected the associate terminology. Thus no consistent

position had emerged from organized medicine. To further complicate matters the Board on Medicine of the National Academy of Sciences classified physician's assistants according to the degree of specialization and level of judgment and we had the Type A Assistant, the Type B Assistant, and the Type C Assistant. Finally, the AMA did simplify the problem by the Assistant to the Primary Care Physician and the Assistant to the Specialty Physician. As interesting as the heated battle became we were only concerned with getting on with the work of testing the concept of physician's assistants in rural areas in a primary care type practice.

Accordingly the State Health Department in 1971, with the support of the South Dakota State Medical Association, the South Dakota Nurses' Association, the South Dakota Dental Association, and other health organizations, requested funds from the legislature to carry out a pilot project in four counties. This was referred to as the "MUHS" (Minimal Uniform Health Services) Project and it utilized four (4) nurse physician's assistants and a dental hygienist in four (4) counties 45-120 miles from the sponsoring physician and dentist. These young registered nurses, the dental hygienist, and their coordinator had been selected on the basis of a personnel application and a personal interview. A three month, task-oriented, preceptor type program of instruction followed and, upon completion, a 200 question multiple choice type exam was given. Five of the six qualified and the project was underway.

This project was evaluated by the legislature itself, by physicians, by nurses, and, of course, by the public it served. The opinion was that it was of value, was safe, and was desirable. This, of course, was not new to the rest of the U. S. but to South Dakota it was a first.

The next task was that of writing and passing a law which would allow for orderly development of the physician's assistant program but which would also assure safety and quality. Our law (H.B. 674) was written after in-depth study of those of other states.<sup>12</sup> It was similar in some ways but different in others. A few of the vital differences are the definition of responsibility, (Section 3); the long "laundry list" type of tasks which the physician's assistant may perform (Section 4); and the method of placement by the Board of Medical and Osteopathic Examiners (Section 11). The similarities, of course, are the definitions of what courses (Sections 7, 8, 9) approved programs must offer, of the qualifications for certification (Section 12), reciprocity (Section 13), and a grandfather clause (Section 14). This bill passed the legislature with a unanimous vote!

The next step, of course, was to see what would happen when the private sector of medicine took over. The examinations were given in September 1973, the smoke cleared, and all but one of the applicants had successfully passed the examination. We now have:

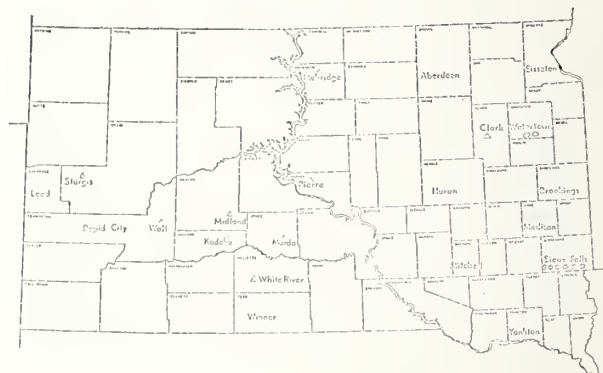
- 17 practicing physician's assistants
- 6 are specialty assistants
- 11 are primary care assistants
- 13 are female
- 4 are male

For a first year much has been accomplished.<sup>13</sup> Something new must be tried with caution. South Dakota has benefitted to this point and it is anticipated that promises No. 5 and No. 6 will be able to be fulfilled.

In conclusion it should be noted that those physicians and physician's assistants who participated in this first year's work should be commended. They may be saving all of our lives in the future. Certainly they can improve medical care in South Dakota. They are, indeed, pioneers.

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Charles E. Lewis, Barbara A. Resnik, Glenda Schmidt, and David Waxman, "Activities, Events and Outcomes in Ambulatory Patient Care," **New England Journal of Medicine** 280, No. 12 (March 1969), pp. 645-49.  
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11. See Appendix B for most recent AMA list of physician's assistant programs.
12. **The Laws Passed at the Forty-Eighth Session of the Legislature of the State of South Dakota**, State of South Dakota, 1973, pp. 337-348.
13. See Appendix A for location of physician's assistants in South Dakota.



- △ Primary Care Physician's Assistants
- Specialty Care Physician's Assistants

#### Appendix A Physician's Assistants Location 1973-1974

(Appendix B on next page)

#### MODERN PRESS, INC.

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## Appendix B

### APPROVED EDUCATIONAL PROGRAMS FOR THE ASSISTANT TO THE PRIMARY CARE PHYSICIAN

The following programs have been approved by the AMA Council on Medical Education in collaboration with the American Academy of Family Physicians, the American Academy of Pediatrics, the American College of Physicians, and the American Society of Internal Medicine.

The column of "Entrance Requirements" lists the minimum requirements for entry to the program; there may be additional requirements; in some instances equivalent experiences and/or education may be substituted. Student Capacity refers to the maximum number of students in a given class, not necessarily the total number of persons admitted to the program each year. Certificate refers to a certificate of satisfactory completion of the program.

For specific information regarding curriculum, financial aid, application forms and procedures, contact the program in which you are interested, addressing your request to the program director.

Any program on the following list is considered to meet or exceed the *Essentials of an Approved Educational Program for the Assistant to the Primary Care Physician*.

STATE AND CITY Sponsoring Institution Approval Status Title of Graduate Affiliated Institution(s)	Program Director Medical Director & Educational Coordinator	Entrance Requirements	Length of Program	Student Capacity	Classes Begin	Tuition	Stipends	Scholarships	Certificate or Degree Awarded
<b>CALIFORNIA Continued</b>									
Approval MEDEX UCLA Hospital and Clinic; Compton Community College; Martin Luther King Hospital; Harbor General Hospital; Torrance & San Bernardino County General Hospital									
<b>COLORADO</b>									
Denver University of Colorado Approval Child Health Associate Department of Health & Hospitals; Denver General Hospital; Eastside & Westside Neighborhood Health Centers; Fitzsimons General Hosp.; General Rose Hospital; Colorado General Hospital, Denver; and University of Colorado, Boulder	H. K. Silver, MD J. E. Ott, MD	4*	36 mos	14	July	\$890/ res \$3200/ non-res.	Yes	Yes	BS or MS plus Certificate from Col. Board of Medical Examiners
<b>DISTRICT OF COLUMBIA</b>									
Washington George Washington University School of Medicine Provisional Approval Physician's Assistant Children's Hosp., DC; Columbia Hosp. for Women; District of Columbia Hospital; George Washington Univ. Hosp.; Naval Hospitals in Bethesda, Philadelphia, and Portsmouth; V.A. Hospitals in Martinsburg and D.C.	T. E. Piemme, MD M. McCally, MD J. M. Wise, PA	5*	24 mos	30	Aug Sept	\$2200/ year	Yes	Yes	B.S. and/ or Certificate
Howard University College of Medicine Preliminary Approval PA/MEDEX Frederick's Hospital; D. C. General Hospital	T. F. Johnson, PhD J. J. Nidiry, MD G. Clemens	6*	15 mos	25	Jan	\$450/ semester	Yes	No	Certificate
<b>FLORIDA</b>									
Gainesville Santa Fe Community College Preliminary Approval Physician's Assistant University of Florida College of Medicine; Gainesville Veteran's Administration Hospital; Shands Teaching Hospitals & Clinics	D. Lewis R. A. Henry, MD J. R. Gilliland, PhD, Ed	7*	24 mos	22	Every 9 mos	\$352/ year	No	No	A.A. Certificate
<b>ALABAMA</b>									
Birmingham University of Alabama Approval Physician Assistant Baptist Princeton Hosp.; Veterans Hospitals in Birmingham, Tuscaloosa, and Montgomery; Lloyd Nolan Hospital, Fairfield, and Edgewater Hospital, Chicago IL	W. B. Frommeyer, Jr., MD K. G. Andreoli, MSN	1*	24 mos	25	Sept	\$175/ Quarter	No	No	Certificate and/or Degree
<b>ARIZONA</b>									
Phoenix Phoenix Indian Medical Center Preliminary Approval Community Health Medical Univ. of Arizona, Tucson; Central Arizona College, Coolidge	L. L. Fairbanks, MD Same as above W. J. Govett	2*	24 mos	10	Sept	None	Yes	No	Certificate
<b>CALIFORNIA</b>									
Los Angeles Charles R. Drew Postgraduate Medical School/UCLA School of Medicine	R. M. Kivel, MD I. Harewood, MD H. Taub, MS	3*	15 mos	36	Sept June	None	Yes	No	Certificate A.A.S.
<p>1* Two years health experience; two years college or equivalent</p> <p>2* Three years patient care experience; High School Diploma or equivalent; Indian experience</p> <p>3* Three years health experience and 30 semester units of college credit</p> <p>4* Two years college or equivalent</p> <p>5* Preference for health experience; One year patient care experience; H.S. Diploma or equivalent; Post High School medical training and/or college education; Ex-military corpsman minimum 14 weeks medical training</p> <p>6* Three years patient care experience; Two years college or equivalent</p> <p>7* High School Diploma or equivalent; Two years patient care experience or baccalaureate degree</p>									

[illegible]



STATE AND CITY Sponsoring Institution Approval Status Title of Graduate Affiliated Institution(s)	Program Director Medical Director & Educational Coordinator	Entrance Requirements	Length of Program	Student Capacity	Classes Begin	Tuition	Stipends	Scholarships	Certificate or Degree Awarded
<b>MISSOURI</b>									
St. Louis	F. J. Carey, MD	18*	24 mos	16	Aug	\$2050/ year	Yes	Yes	Certificate
St. Louis	F. A. Zacharewicz, MD								
<i>School of Nursing &amp; Allied Health Profes- sions</i>	C. E. Berry, AB, MScHA, JD								
<b>NEW HAMPSHIRE</b>									
Hanover	B. Strauss, MD R. K. Tompkins, MD	19*	12 mos	24- 30	Jan	None	No	Yes	Certificate
<i>Dartmouth Medical School/The New Hamp- shire Medical Society</i>									
<b>NEW MEXICO</b>									
Gallup	J. N. Bennett, II, MD	20*	24 mos	15	July Sept	None	Yes	No	Certificate
<i>Gallup Indian Medical Center</i>	T. G. Fleming, MD								
<i>Community Health Medic University of Arizona</i>	J. C. Bernson								
<i>College of Medicine, Tuc- son; Office of Research &amp; Development, Indian Health Service, Tucson;</i>									
<i>University of New Mexi- co College of Medicine in Albuquerque; Navajo Tribal Health Authority, Window Park, Navajo Nation</i>									
<b>NORTH CAROLINA</b>									
Durham	E. H. Estes, MD J. S. Saylor, MD S. H. Dixon, MD R. D. Carter, MD	27*	24 mos	40	Aug	\$2500/ year	Yes	Yes	Certificate and/or B.H.Sc.
<i>Duke University School of Medicine</i>									
<i>Approval</i>									
<i>Physician's Associate</i>									
<b>NORTH CAROLINA</b>									
Durham	E. H. Estes, MD J. S. Saylor, MD S. H. Dixon, MD R. D. Carter, MD	27*	24 mos	40	Aug	\$2500/ year	Yes	Yes	Certificate and/or B.H.Sc.
<i>Duke University School of Medicine</i>									
<i>Approval</i>									
<i>Physician's Associate</i>									
<b>NEW YORK</b>									
Albany	S. W. Cooper, MD R. A. Nystrom, PhD	21*	24 mos	30	Aug	\$2150	Yes	Yes	A.A.S. Certificate
<i>Albany Medical College and Hudson Valley Community College</i>									
<i>Provisional Approval</i>									
<i>Physician's Associate</i>									
<i>Albany Medical Center Hospital; V.A. Hospital; S. Peter's Hosp.</i>									
Brooklyn	A. Lewis, MD M. N. Kalkay, MD N. Dominguez, AAS, RN	22*	24 mos	24	Sept	\$65/ credit	Yes	Yes	A.A.S. (B.S. Pending)
<i>The Brooklyn Hospital Approval</i>									
<i>Physician's Associate</i>									
<i>Long Island University</i>									
New York City	P. B. Coleman G. K. Henry, MD T. E. Russell, RN, MA	23*	24 mos	20	Sept	None	Yes	No	Certificate B.S. Degree
<i>Antioch College/Harlem Hospital</i>									
<i>Preliminary Approval</i>									
<i>Physician's Associate</i>									
<i>Columbia College of Physicians and Surgeons;</i>									
<i>Harlem Prep. School</i>									
<i>Touro College</i>	S. S. Twersky S. Korman, MD, PhD G. Cohen, PhD	24*	24 mos	50	Sept	\$2500/ year	No	Yes	B.S. Degree
<i>Preliminary Approval</i>									
<i>Physician's Associate</i>									
<i>Kingsbrook Jewish Medi- cal Center, Brooklyn</i>									
Staten Island	J. H. Hensley, MD P. L. Spencer, MD R. L. Oshins, BS	25*	13 mos	40	Sept	None	No	No	Certificate
<i>U.S. Public Health Serv- ice Hospital—Staten Is- land</i>									
<i>Probationary Approval</i>									
<i>Physician's Assistant</i>									
<i>Mariner's Harbor Clinic;</i>									
<i>Staten Island Hospital;</i>									
<i>Pediatric Clinic; St. Vin- cent's Medical Center; St. Barnabas' Medical Center, NJ</i>									
Stony Brook	S. V. Allen, Jr., MD J. G. Richards, MX, RN	26*	24 mos	30	Sept	\$950/ year res.	Yes	Yes	Certificate B.S. Degree
<i>State University of New York</i>									
<i>Preliminary Approval</i>									
<i>Physician's Associate</i>									
<i>Brookhaven National Lab- oratories, Upton; Hillside Med. Center, Glen Oaks; Long Island Jewish Hos- pital; Nassau County Med. Center, East Mea- dow; Northport V.A. Hospital; Queens General Hospital, Jamaica</i>									
<b>NORTH CAROLINA</b>									
Durham	E. H. Estes, MD J. S. Saylor, MD S. H. Dixon, MD R. D. Carter, MD	27*	24 mos	40	Aug	\$2500/ year	Yes	Yes	Certificate and/or B.H.Sc.
<i>Duke University School of Medicine</i>									
<i>Approval</i>									
<i>Physician's Associate</i>									

18\* Two years patient care experience; Two yrs. college or equivalent; Ex-military corpsman-mini-  
mum 14 wks. medical train.  
19\* Preference for health experience; High School Diploma or equivalent  
20\* Three years patient care experience; H.S. Diploma or equivalent  
21\* & 22\* One year patient care experience; H.S. Diploma or equivalent; ACT and/or SAT scores  
23\* Two years patient care experience; High School Diploma or equivalent; Ex-military corpsman-  
minimum 14 wks. med. train.  
24\* Preference for health experience; H.S. Diploma or equivalent; Two years college or equivalent  
25\* High School Diploma or equivalent; Three years medical experience and/or education  
26\* One year patient care experience; High School Diploma or equivalent  
27\* One year patient care experience; High School Diploma or equivalent  
(For the Bachelor in Health Science Degree, an additional two years of college credit or  
equivalent.)

STATE AND CITY Sponsoring Institution Approval Status Title of Graduate Affiliated Institution(s)	Program Director Medical Director & Educational Coordinator	Entrance Requirements	Length of Program	Student Capacity	Classes Begin	Tuition	Stipends	Scholarships	Certificate or Degree Awarded
<b>NORTH CAROLINA Continued</b>									
V.A. Hospitals in Durham & Oteen			[Duke University Medical Center; ZIP 27710]						
Winston-Salem Bowman Gray School of Medicine of Wake Forest University	L. E. Powers, MD H. T. Wilson, MD K. Anderson, MD	28*	24 mos	40	Sept	\$1500/ year	No	Yes	Certificate
Family Health Center-Reynolds Memorial Hospital; Forsyth Memorial Hosp; North Carolina Baptist Hosp; V.A. Hospital, Salisbury									
<b>OKLAHOMA</b>									
Oklahoma City University of Oklahoma Health Sciences Center	W. D. Stanhope, PA	29*	24 mos	50	Aug	\$14/Cr Res \$40/Cr non-res	Yes	Yes	B.H. Degree
Approval Physician's Associate Newman Medical Center, Shattuck; V.A. Hospitals in Muskogee and Oklahoma City; Wakita Community Health Center	T. N. Lynn, MD A. Kent T. R. Godkins, PA								
<b>PENNSYLVANIA</b>									
Philadelphia Hahnemann Medical College and Hospital of Philadelphia	J. Martin, DED D. Major, MD K. Bharadwaja, MD	30*	21 mos	40	Sept	\$1650/ year	No	Yes	A.S.
Approval Physician's Assistant									
<b>SOUTH CAROLINA</b>									
Charleston Medical University of South Carolina	A. C. Hutson, Jr., MD	31*	12 mos	25	Sept	\$25/ year	No	No	Certificate
Preliminary Approval MEDEX Veteran's Administration Hosp; Charleston County Hospital; & MUSC Hospital & Outpatient Clinic	Same as above K. J. Buhmeyer								
<p>28* Preference for health experience; High School Diploma or equivalent; Two years experience as a medical corpsman or two years college and/or patient care experience</p> <p>29* Two years health experience; Two years college or equivalent</p> <p>30* High School Diploma or equivalent</p> <p>31* High School Diploma or equivalent; Three years patient care experience; Ex-military corpsman with a minimum of fourteen weeks medical training</p> <p>32* Two years college or equivalent</p> <p>33* High School Diploma or equivalent; Army GI score of 100; Three years clinical experience</p> <p>34* Two years college or equivalent</p> <p>35* Two years health experience; High School Diploma or equivalent; Two years college or equivalent</p> <p>36* One yr. patient care experience; High School Diploma or equivalent; Medical service airman with 3 years service</p> <p>37* Extensive previous training and experience</p>									
<b>TEXAS</b>									
Dallas University of Texas Health Science Center at Dallas	J. C. Delahunt J. P. North, MD Maurine Giese	32*	24 mos	24	Aug	\$4/hr res \$40/hr non-res	No	Yes	B.S.
Preliminary Approval Physician's Assistant Parkland Memorial Hospital; Methodist Hospital; Children's Medical Center; Presbyterian Hospital; Baylor University Medical Center; V.A. Hospital of Dallas									
Fort Sam Houston U.S. Army Academy of Health Sciences	COL J. B. McClure, MD COL H. A. Robinson, Jr., MD LTC T. C. Birk, MD	33*	24 mos	60	Feb Aug	\$150	No	No	A.S.
Approval Physician's Assistant Baylor University, Waco; Brook General Hospital, Fort Sam Houston									
Galveston University of Texas Medical Branch—Galveston	W. F. Dodge, MD R. C. Greaser	34*	26 mos	20	July	\$4/Cr res \$40/Cr non-res	Yes	No	[ZIP 76311] B.S. Certificate [ZIP 77550]
Preliminary Approval Physician's Assistant									
Houston Baylor College of Medicine	R. J. Luchi, MD Same as above C. E. Fasser, PA	35*	24 mos	40	Sept	\$1200/ year	Yes	No	Certificate Baccalaureate Degree
Preliminary Approval Physician's Assistant Ben Taub General Hosp; Houston Veterans Hosp; Jefferson Davis Hosp; The Methodist Hosp; St. Luke's Hosp; V.A. Hosp, Muskogee									
Sheppard School of Health Care Sciences United States Air Force	C. N. Mullican, MD C. L. Gaudry, MC R. F. H. Kirk, MC	36*	24 mos	40	July Nov March	No	No	No	B.S. [ZIP 77025]
Physician's Assistant 15 USAF Regional Hospitals									
<b>UTAH</b>									
Salt Lake City University of Utah, Utah MEDEX	C. H. Castle, MD L. J. Reynolds, PhD F. D. Fisher, MD	37*	12 mos	15	Fall	No	Yes	No	Certificate [ZIP 84112]
Approval MEDEX Cottonwood Hosp; Community Hypertension Clinic; Holy Cross Hosp; Neighborhood Health Clinic; V.A. Hosp; University Hosp. & Family Practice Clinic; and in Ogden, McKay-Dee Hosp., St. Benedict's Hosp., & Weber State University									



## Addendum

The following programs were approved by the AMA Council on Medical Education in collaboration with the Joint Review Committee on Educational Programs for the Assistant to the Primary Care Physician on March 15-17, 1974.

STATE AND CITY Sponsoring Institution Approval Status Title of Graduate Affiliated Institution(s)	Program Director Medical Director & Educational Coordinator	Entrance Requirements	Length of Program	Student Capacity	Classes Begin	Tuition	Stipends	Scholarships	Certificate or Degree Awarded
<b>WASHINGTON</b>									
Seattle <i>University of Washington</i> <i>/Washington State Medical Society</i> Approval MEDEX University of Washington School of Public Health & Community Medicine & Affiliated Hospitals	D. Lawrence, MD W. Callen H. Felton, MD	38*	12 mos	25	Varies	None	Yes	Yes	Certificate
[444 North East Ravenna Boulevard; ZIP 98115]									
<b>WEST VIRGINIA</b>									
Philippi <i>Alderson-Broadbent College</i> Approval <i>Physician's Assistant</i> In West Virginia; Appalachian Regional Hospital; Broadbent Hosp. The Myers Clinic; Cabel-Huntington Hosp.; Charleston Memorial Hosp. V.A. Hospitals in Martinsburg and Clarksburg; West Virginia Univ. Med. Center; The Morris Cafritz Memorial Hosp., (DC); Medical Univ. of South Carolina; The Frederic C. Smith Clinic	H. C. Myers, MD R. V. Dignan, PhD	39*	42 mos	40	Sept	\$1701/year	Ycs	Ycs	B.S.

[Division of Professional Studies, College Hill; ZIP 26416]

STATE AND CITY Sponsoring Institution Approval Status Title of Graduate Affiliated Institution(s)	Program Director Medical Director & Educational Coordinator	Entrance Requirements	Length of Program	Classes Begin	Tuition	Stipends	Scholarships	Certificate or Degree Awarded
<b>CALIFORNIA</b>								
Davis <i>University of California</i> Approval <i>Family Nurse Practitioner</i> Sacramento Medical Center, Family Practice Unit; Kaiser Permanente, Sacramento; Yolo Gen. Hosp.; Woodland; Mather AFB Hospital, Sacramento; Sallud Clinic, Broderick	L. H. Andrus, MD N. B. Smith, MD M. D. Penley, FNP	40*	18 mos	50 Jan	\$1000/yr	No	No	Cert. or M.H.S.
<b>OHIO</b>								
Cleveland <i>Cuyahoga Community College</i> Preliminary Approval <i>Physician's Clinical Assistant</i> Cleveland Clinic Hospital; Booth Memorial Hospital; Collinwood Elder Care Center	G. B. Rudy, MS A. B. Kunkel, MD L. A. Sturges	41*	21 mos	25 Sept	\$7.70/ qt. hr. (City) \$10.70/ qt. hr. (State) \$20.70/ qt. hr. (out-of-state)	No	Yes	A.S.

## PENNSYLVANIA

Hershey <i>The Pennsylvania State University</i> Preliminary Approval MEDEX Harrisburg Polyclinic Hosp., Harrisburg; Lebanon Veteran's Administration Hospital	T. L. Leaman, MD J. R. Emch, MD R. D. Hasz, MD	42*	15 mos	15 Apr Oct	None	Yes	No	Cert.
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## WISCONSIN

Marshfield <i>Marshfield Clinic Foundation for Medical Research &amp; Education</i> Preliminary Approval <i>Physician's Assistant</i> Marshfield Clinic; St. Joseph's Hosp; Univ. of Wis. Wood County Campus; Medford Clinic; Fond Du Lac Clinic; Medical Associates Clinic; Osseo Medical Group; Neillsville Clinic; Community Medical Group; Mondovi; Schiek Clinic, Rhineland	F. N. Lohrenz, MD D. T. Fullerton, MD R. A. Payne, RN	43*	24 mos	15 Aug	\$525/yr state-res.	Yes	No	Cert.
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- 38\* Three years medical experience and/or education; Ex-military corpsman, minimum 14 weeks medical training  
39\* High School or equivalent  
40\* Registered Nurse (2, 3, or 4 year program) plus two years ambulatory care experience  
41\* Matriculation in Cuyahoga Community College; H.S./equivalent; ACT scores  
42\* H.S. plus 14 weeks medical training/equivalent; 2 yrs. direct clinical care experience; U.S. citizen  
43\* H.S./equivalent; three years prior pertinent experience or a registered nurse diploma

# SOUTH DAKOTA CHAPTER NEWS



SOUTH DAKOTA ACADEMY OF FAMILY PHYSICIANS  
3001 South Holly Avenue  
Sioux Falls, SD 57105



The fifth annual Black Hills Seminar, held in Rapid City, August 16th and 17th, 1974, was an outstanding success in every way. This is the big effort by the South Dakota Academy of Family Physicians to provide a top notch medical seminar. The record number of physician registrants this year were not disappointed by the program.

Dr. Gordon H. Deckert, a native South Dakotan and Chairman of the Department of Psychiatry and Behavioral Sciences at the University of Oklahoma, gave three sessions describing the practical use of transactional analysis in the office and in our personal lives. All who attended came away with golden nuggets of human understanding, presented in a unique way. Dr. Deckert truly gave of himself to make our meeting an outstanding one and we are grateful that he was able to be there.



The seminar is sponsored annually, not only by the South Dakota Chapter of the Academy but also by the South Dakota Chapter of the American College of Obstetrics and Gynecology. They receive grant funds from HEW which help in the financial support and Dr. B. J. Williams of Sioux Falls again provided two outstanding speakers in the Ob-Gyn field for us. Dr. William B. Stromme, in private practice in Minneapolis and Dr. John T. Queenan, Head of the Department of Obstetrics and Gynecology at Louisville School of Medicine, both gave outstanding updates in obstetrical topics.

Dr. Arnold Schroeter presented topics in practical office dermatology and update in VD management.



Bristol Labs, Rowell Labs, Burroughs Wellcome, Merck Sharp & Dohme, Ciba, Wyeth Laboratories, Roche Labs, Ortho Pharmaceuticals, Upjohn and Eli Lilly, in addition to South Dakota Blue Shield, sponsored the program so there was no registration fee.

Wenzel Kovarik, our incoming president, planned an outstanding group dinner at the Game Lodge on Friday evening. With the bus "entertainment" provided by our able secretary, Loren Amundson, this is always the evening highlight of the weekend.



For the second year in a row, we have been fortunate to have the AAFP National President with us. Dr. James G. Price of Brush, Colorado, our current national president, was at our meeting this year and spoke several times to the group to give us a current update on Academy activities at the national level.



DEC 10 '74

DEC 24 '74

STACK

# SOUTH DAKOTA

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BY THE S. DAK. STATE MEDICAL ASSN.

OF

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NOVEMBER • 1974



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# Both often



- Predominant psychoneurotic anxiety

- Associated depressive symptoms

**Before prescribing, please consult complete product information, a summary of which follows:**

**Indications:** Tension and anxiety states; somatic complaints which are concomitants of emotional factors; psychoneurotic states manifested by tension, anxiety, apprehension, fatigue, depressive symptoms or agitation; symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor

neuron disorders, athetosis, stiff-man syndrome, convulsive disorders (not for sole therapy).

**Contraindicated:** Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.

**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful



# respond to one

According to her major symptoms, she is a psychoneurotic patient with severe anxiety. But according to the description she gives of her feelings, part of the problem may sound like depression. This is because her problem, although primarily one of excessive anxiety, is often accompanied by depressive symptomatology. Valium (diazepam) can provide relief for both—as the excessive anxiety is relieved, the depressive symptoms associated with it are also often relieved.

There are other advantages in using Valium for the management of psychoneurotic anxiety with secondary depressive symptoms: the psychotherapeutic effect of Valium is pronounced and rapid. This means that improvement is usually apparent in the patient within a few days rather than in a week or

two, although it may take longer in some patients. In addition, Valium (diazepam) is generally well tolerated; as with most CNS-acting agents, caution patients against hazardous occupations requiring complete mental alertness.

Also, because the psychoneurotic patient's symptoms are often intensified at bedtime, Valium can offer an additional benefit. An *h.s.* dose added to the *b.i.d.* or *t.i.d.* treatment regimen can relieve the excessive anxiety and associated depressive symptoms and thus encourage a more restful night's sleep.

For further information on this subject, the following references are provided:

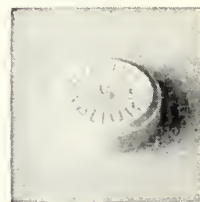
1. Henry BW, et al: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, et al: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.

**Side Effects:** Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle



**Valium<sup>®</sup>**  
**(diazepam)**  
2-mg, 5-mg, 10-mg tablets

in psychoneurotic  
anxiety states  
with associated  
depressive symptoms

spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.



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# The South Dakota Journal of Medicine



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## IMMUNOLOGY AND ITS IMPACT ON DIAGNOSIS AND TREATMENT IN GENERAL PRACTICE\*

by

**Raymond G. Slavin, M.D.**

**Professor of Internal Medicine**

**Director of the Section of Allergy & Immunology**

**St. Louis University School of Medicine**

**St. Louis, Missouri 63104**

The title of this paper seems particularly appropriate at this time. There has been a general tendency to think of immunology as a vague, laboratory science. At the mention of the name we conjure up visions of guinea pigs going into anaphylaxis during our old microbiology lectures or we visualize technicians adding antisera to rows of test tubes. There has been a veritable explosion of new information on immunology during the past decade and what I would like to do in this paper is to point out a few examples of how immunologic principles have been taken from the laboratory to the bedside and how many of these principles can be applied diagnostically and therapeutically.

One of the major roles of the clinical immunologist is in providing protective immunity for individuals exposed to infectious diseases. This is the best known and best understood of all of the major roles of the clinical immunologist. One way of providing protective immunity against infectious diseases involves active immunization in which the infectious agent induces active protection in the individual by production of antibody. Generally the agent is presented in an attenuated form such as tetanus toxoid. A second way of providing protective immunity is the passive route whereby preformed antibody is injected into the individual. This is in the form of pro-

TECTIVE ANTISERUM and provides immediate but obviously not long lasting protection. Information derived from experimental immunization has been extrapolated easily to the clinical situation. The concept of "booster" immunization for example is a direct outgrowth of the secondary or anamnestic response.

A second role of the clinical immunologist is dealing with the immunologically deficient patient. Most of our understanding of immunologic deficiency is derived from studies on the experimental animal. The chicken has particularly provided a great deal of information and out of studies of the chicken has come development of the so-called two component system of the immune response. This system starts with the bone marrow stem cell, a primitive multi-potential cell. This cell can go in one of two directions. It can be acted upon by the lymphoid thymus and acquire a so-called theta antigen via a probable thymic hormone. After being acted upon by the thymus it becomes a T cell or thymic derived lymphocyte and populates peripheral lymphoid tissue as the cell responsible for delayed hypersensitivity or cell-mediated immunity. Some of the manifestations of delayed hypersensitivity are homograft rejection, the graft vs. host reaction, contact dermatitis, and protective immunity against agents such as mycobacterium tuberculosis. The primitive bone marrow stem cell can go in another direction than the thymus. It can be acted upon by the lymphoid

\*From an address given to the annual meeting of the South Dakota State Medical Association, Aberdeen, South Dakota, May 31, 1974.

bursa to become a plasma cell. The plasma cell also circulates throughout the body and populates regional lymphoid tissue and is responsible for the production of immunoglobulin, that is, those gamma globulins with antibody properties. These concepts evolved from the wealth of studies done in experimental animals such as the chicken. The chicken has a clear-cut two component system. It possesses a thymus gland which is responsible for the T lymphocyte. It also has a lymphoid organ dorsal to the cloaca called the bursa of Fabricius. This organ seems to be responsible for the production of humoral antibody or immediate hypersensitivity. Removal of the bursa results in an ablation of antibody production while cell-mediated immunity remains intact. It is not as yet sure what the bursal equivalent in man is, although most investigators feel that it is the bone marrow.

In order to diagnose particular immune deficiencies it is necessary to challenge individuals with appropriate antigens and see what their particular response is. Immediate hypersensitivity or evaluation of circulating antibody can be determined by measurement of circulating serum immunoglobulins or measurement of the particular antibody response to a specific antigen. One commonly used method is to inject tetanus or diphtheria antigen and determine the specific antibody response. Delayed hypersensitivity or cell-mediated immunity is most commonly detected by intradermal injection of a delayed reacting antigen such as tuberculin, histoplasmin, monilia, or mumps. The classic 48 hour reaction of erythema and edema is then observed. There are other more sophisticated *in vitro* techniques such as lymphocyte transformation and detection of migration inhibition factor but certainly the delayed reacting skin test remains the most important technique in diagnosing delayed hypersensitivity.

In order to treat the immunologically deficient patient it is important to recognize the defect and institute a rational and appropriate approach. Deficiency of B cells or bone marrow derived cells leads to deficiency in circulating humoral antibody. The vast majority of the antibody deficiency diseases are associated with a decrease in IgG, the main protective immunoglobulin. This can be treated very effectively by simple replacement with human gamma globulin at approximately three week intervals. It is important to remember that commercially available human gamma globulin consists almost exclusively of IgG with only small amounts of IgA and truly negligible amounts of IgM, IgD and IgE.

In the other main group of immunologic deficiency diseases, namely those of T cell dysfunction, we have

written an entirely new chapter in immunologic engineering or reconstitution. Patients who formerly died within weeks or months of diagnosis can be definitively treated at the present time. To do this, however, we have to fit what we have learned about the immune response into a clinical picture or schema. Otherwise we would find ourselves utilizing a "shot-gun" type of approach. A few tentative but exciting steps have been taken in reconstituting patients with immune deficiencies of the T cell system. The goal in any treatment of immune deficiency is a clinical cure with permanent correction of the immunologic defect. Failing this, we at least strive for substantial improvement and remission with at least temporary improvement in immune function. As indicated earlier, the lymphoid stem cell is acted upon by the thymus to become an antigen reactive cell. The antigen reactive cell is acted upon by antigen processed by macrophages. When this happens a number of lymphokines or mediator substances are released by the activated lymphocyte. Appropriate immunologic therapy then involves the detection of the immunologic deficiency and, more importantly, fitting the deficiency into a clinical scheme. If the defect is back in the primitive lymphoid stem cell, a condition known clinically as thymic aplasia, then one must provide for the immunologically deficient individual immunologically competent stem cells. A source of these cells are the bone marrow of immunologically competent individuals. Initial attempts at reconstitution met with uniform failure because of the graft vs. host reaction. Ordinarily when we think of graft reactions we think of the classic host vs. graft reaction, that is, the immunologically competent host rejecting the graft. In the situation of immune deficiency, though, the host cannot summon up an immune response against the graft. If there are immunologically competent cells in the graft then the graft mounts an immune offensive against the host leading to a florid dermatitis, diarrhea and eventual death. The obvious way to approach this is to inject stem cells from a donor who is histocompatible with the recipient. This can be determined by tissue typing, which is now available in many medical centers. By means of tissue typing, a number of potential donors can be evaluated and the one most histocompatible with the recipient selected. The best source of histocompatible cells would be a sibling since within a sibling group there is a 25% chance of histocompatibility. Successful stem cell transplantation has been carried out in several medical centers in this country.

If the defect is in the thymus gland, a condition most generally known as thymic dysplasia or the



DiGeorge syndrome, then the best approach is replacement of the thymus gland by thymus gland transplant. Again this has been successfully done.

If the defect in the T cell system is in the antigen reactive cell then we can use one of two approaches. We can either use histocompatible peripheral lymphocytes or transfer factor. This is a small molecular weight substance produced by immunologically competent lymphocytes that confers both *in vitro* and *in vivo* delayed hypersensitivity. The advantages of transfer factor, which can be easily obtained from competent lymphocytes, are that it is not immunogenic, that is, it will not induce antibody formation and it will not result in a graft vs. host reaction. Transfer factor has been used clinically in the treatment of generalized vaccinia, the Wiskott-Aldrich syndrome and chronic mucocutaneous candidiasis.

A third role of the clinical immunologist is eliminating undesirable immune reactions in patients. This can be done in two ways, by active immunization or by suppressing the harmful immune reaction.

The best example of active immunization is the familiar hyposensitization or immunotherapy that can be applied to such allergic states as allergic rhinitis (hayfever), bronchial asthma or the most successfully treated of all conditions, anaphylaxis to stinging insects. The procedure of immunotherapy consists of injecting small increasing amounts of an aqueous extract of the appropriate antigen or allergen. The allergen may be a seasonal inhalant such as ragweed, trees or grass responsible for allergic rhinitis or asthma, a nonseasonal inhalant such as housedust, or it can be the antigen of the Hymenoptera family of stinging insects responsible for, in some cases, severe life threatening anaphylaxis. The results of immunotherapy are the following:

1. A decrease in the titre of IgE skin sensitizing antibody.
2. An increase in an IgG neutralizing or blocking antibody.
3. A decrease in white cell sensitivity and reactivity. This refers to the changes in white cell reaction to the appropriate antigen. When the peripheral leukocytes of an allergic individual are incubated with the appropriate antigen, for example, white cells of a ragweed sensitive patient incubated with a small amount of ragweed, we can measure a profound release of histamine from the white cells into the supernatant. After effective immunotherapy with ragweed antigen the patient's white cells show a definite decrease in the release of histamine in response to ragweed antigen.

4. Clinical improvement. There is certainly no question that appropriate immunotherapy for allergic rhinitis, bronchial asthma and sensitivity to stinging insects leads to clinical improvement in these conditions.

A second method of eliminating an undesirable reaction is by suppressing the harmful immune reaction and we call this technique immunosuppression. Some methods of immunosuppression are radiation, corticosteroids, cytotoxic agents, best exemplified by alkylating drugs (Cytosan), purine antagonists (Imuran), and folic acid antagonists (Methotrexate). There are many examples of immunosuppression, that is, shutting off the immune response. Immunoproliferative disorders such as multiple myeloma can be effectively treated with immunosuppressive drugs. The homograft rejection such as ensues in kidney transplant can be suppressed by concomitant use of corticosteroids and cytotoxic drugs. Autoimmune diseases such as Coomb's positive hemolytic anemia and systemic lupus erythematosus can be treated with immunosuppressive drugs. Perhaps the most dramatic and far reaching example of immunosuppression is immunologic treatment of Rh hemolytic disease of the newborn. If done in the right way in an extensive enough fashion we can eventually wipe out this all too common and dangerous disease. Basically, the technique entails suppressing the endogenous immune response by administering passively exogenous antibody. In this situation we are presented with an Rh negative mother with an Rh positive fetus. The sensitization of the mother by the fetal Rh positive cells occurs largely during labor and delivery. Therefore, one has up to 72 hours after delivery to give commercially available anti-Rh antibody. When this anti-Rh antibody is injected it turns off the active immune response of the mother. It does this by neutralizing or combining with the Rh positive cells of the fetus and tying up the antigenic sites so that the mother's lymphocytes do not respond to them. The mother, therefore, does not become sensitized and does not produce anti-Rh antibody. Her next Rh positive fetus is protected. It is important, of course, to treat an Rh negative mother with anti-Rh antibody each time she has an Rh positive fetus.

These then are just a few examples of how immunology has made its impact on the diagnosis and treatment of many disease states. Extensive research is continuing throughout the world and the next few years will, I'm sure, see a tremendous amount of activity in such fields as cancer immunology and homotransplantation.

#### Suggested Reading

1. Good, Robert A., Immunologic Reconstitution: The Achievement and Meaning. Chapter 23, **Immunobiology**. Good and Fisher, Sinauer Associates, 1971.
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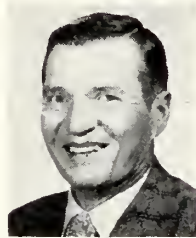
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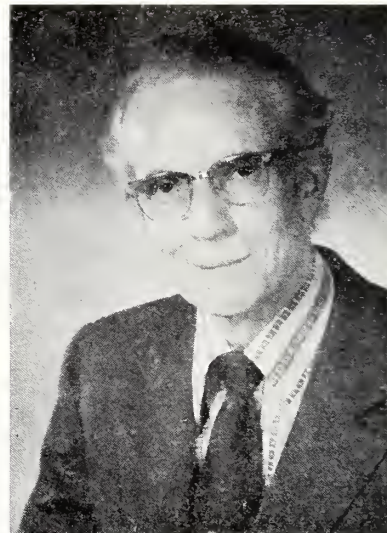
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# P R E S I D E N T ' S P A G E



The South Dakota Foundation for Medical Care was created after countless hours of study and work by Dr. Joseph Muggly and the other appointed members of the ad hoc committee. No one person in South Dakota has devoted more personal effort to this project than Dr. Muggly, and our sincere appreciation and thanks go to him and the committee. Articles of Incorporation and Bylaws were written and approved by the Council.

The South Dakota Foundation for Medical Care is an autonomous corporation with its own board of directors. Every physician member of the Medical Association may apply for membership, and upon being accepted, may participate in all programs and activities. Dr. George Himler<sup>2</sup> has said that Foundations for Medical Care create a group practice setting for physicians who prefer to remain in individual private practice. They make it possible for physicians to meet requirements for peer review or other professional service review. Since HEW has the authority under law to name any group as PSRO, be it public, private, non-professional or otherwise, Dr. Muggly wisely foresaw the need for the involvement of our own doctors in this area.

These corporations can and have been used for many other worthy purposes. They have been used<sup>1</sup> to sponsor graduate and post graduate programs, to set up benevolent programs, to set minimal standards for basic group insurance programs, to qualify as an HMO and other projects.

Foundations for Medical Care have the potential to serve as a management mechanism for the development and delivery of medical services in the American tradition of free choice of physician and hospital by the patient, the fee for service concept and *local control* of over and under utilization through peer review which is now with us in Public Law 92-603. More than half of the members of the State Association have signed up for Foundation membership.

Robert E. Van Demark, M.D.  
President  
South Dakota State Medical Association

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## EIGHTY-FOUR YEAR CAUCASIAN MALE WITH SUDDEN ONSET OF EPIGASTRIC PAIN

Richard A. Jongewaard, M.D.\*  
*Discusser-Intern*

John F. Barlow, M.D., FCAP\*\*  
*Pathologist-Editor*

### CASE NO. M615702

This 84-year old Caucasian male entered for increasing steady epigastric pain of eight hours duration.

Several days prior to admission the patient was feeling more lethargic and tired. On the evening before admission he had a bland meal but felt "gastric" discomfort which involved both upper quadrants in the midline. There was no nausea or vomiting. He was seen on a house call and had a soft abdomen with no palpable masses or spasm. His bowel habits had been regular. In spite of sedation the pain became worse with radiation through to the back.

The patient had had a partial gastrectomy (Billroth II) in 1954 for a duodenal ulcer. The patient had had intermittent dark stools and iron deficiency anemia since that time on several occasions. He had been treated with iron therapy for this. There was mild anorexia and five pound weight loss over the last few months. The patient had had known arteriosclerotic heart disease with a previous myocardial infarction and a typical angina pectoris which had been diagnosed at the Mayo Clinic. The patient had had no signs or symptoms of recent congestive heart failure.

**PHYSICAL EXAMINATION:** The patient was an elderly alert cooperative male with a pulse of 64 per minute and regular, temperature of 97°F, respirations 16 per minute and regular, blood pressure 200 systolic and 100 diastolic, weight 163 pounds, and height 6'1½". Examination of the head and neck was unremarkable. Examination of the chest revealed the lung fields to be clear to auscultation and percussion. The heart was not enlarged to percussion. There was a rather harsh pansystolic ejection Grade IV/VI murmur without any diastolic component transmitted widely over the precordium. Examination of the abdomen revealed mild tenderness without spasm in the epigastrium. There was a doughy fullness in both upper quadrants. The spleen and liver were not palpable. A harsh systolic bruit heard in the abdomen was thought to be transmitted from the heart. There were prominent femoral and popliteal pulses, but dorsalis pedis and posterior tibial pulses were not felt. Rectal examination revealed a normal prostate for age.

\*Second Year Resident in Family Practice, Sioux Valley and McKennan Hospitals Program, Sioux Falls, South Dakota.

\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, University of South Dakota.

Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.

**LABORATORY DATA:** Urinalysis: clear, specific gravity 1.012, pH 6.5, protein 3+, negative for glucose, ketone bodies, bile, hemoglobin; sediment-negative, Hemoglobin 12.3 gms/dl, red count 4.09 million/mm<sup>3</sup>, hematocrit 37 vols/dl, mean corpuscular hemoglobin 31 micromicrograms, mean corpuscular volume 90 cubic micra, mean corpuscular hemoglobin concentration 32%, total leukocyte count 11,000/mm<sup>3</sup> with 85% neutrophils, 1% neutrophilic bands, and 14% lymphocytes. The red cells were normochromic normocytic and the platelets appeared normal in number and morphology on the smear. pH 7.31, PCO<sub>2</sub> 50 mm of mercury, CO<sub>2</sub> content 25 meq/L, sodium 134 meq/L, potassium 4.6 meq/L, chloride 101 meq/L, calcium 9.0 mgs/dl, amylase 2,480 units/dl and 3,680 units/dl (normal 20-160 units/dl), lipase was 8.6 units/dl (normal 0-1.5 units/dl). A 12 panel on admission-bilirubin, alkaline phosphatase, lactic dehydrogenase, and serum glutamic oxaloacetic transaminase were normal. The creatinine was 2.6 mgs/dl, BUN 39 mgs/dl, glucose 155 mgs/dl, uric acid 9.5 mgs/dl. Serial ECG's showed anteroseptal infarction, first degree heart block, and left ventricular hypertrophy (taken five days after admission.) A chest film revealed borderline heart size and minimal linear atelectasis in the right lower lung field. Abdominal films revealed degenerative changes in the spine and metallic sutures in the mid abdomen. A lateral view did not add any information.

Over several days the PCO<sub>2</sub> decreased to normal and the pH increased to within normal range. Calcium remained within normal limits and the white count decreased to normal range with no shift to the left. The hemoglobin varied from 10.7 to 13.3 gms/dl depending on the state of dehydration. After a period of 24 hours in the hospital the patient developed a mass in the abdomen which was tender and was felt to be an acute pseudocyst. There was initial elevation of the white count and a low grade fever but both of these subsided as did the serum amylase which returned to normal after several days. The patient improved and was started on oral feedings but on the sixth hospital day developed acute chest pain and diaphoresis with electrocardiographic evidence of an acute anteroseptal myocardial infarction. At this time the creatine phosphokinase was 133 units/dl (normal 0-100 units/dl), serum glutamic oxaloacetic transaminase 66 units/dl (normal 0-35 units/dl), and lactic dehydrogenase 240 units/dl (normal 40-150 units/dl). LDH fractionation showed elevated fast fractions consistent with myocardial damage. The patient died 24 hours after the manifestations of the acute myocardial infarct on the eighth hospital day.

DR. RICHARD A. JONGEWAARD: I believe I will approach this case from the aspect of the differential diagnosis of epigastric pain. What can cause epigastric pain in a man of this age. About the only thing I am sure of we can rule out is ectopic pregnancy on the basis of age and sex. One must consider myocardial infarction and coronary heart disease as a cause of all of this patient's symptoms, although it was considered later on in the course of the disease. A dissecting aneurysm of the aorta is a possibility although we have little to support it. There is a mass in the abdomen that was not reported as pulsatile but we must suspect a leaking abdominal aneurysm. However, I do not believe that this patient had any of these entities. There is no suggestion on x-ray films of abdominal aneurysm. The patient did have good femoral pulses.

Severe biliary colic is usually localized to the right side although you could get an elevated amylase as in this case with that entity. There is no jaundice, however, to accompany biliary colic. Acute renal colic does not usually give epigastric pain and is usually localized to one side or the other. One must consider broncho-pneumonia with diaphragmatic irritation causing abdominal pain but this is ruled out by the chest x-ray. There was some linear atelectasis but I do not think this could have given rise to abdominal symptoms of this severity.

Pancreatitis is a prime candidate in this patient. The patient had an elevated amylase and lipase and was considered to have a pseudocyst of the pancreas later on. At any rate, I do not feel we can rule out pancreatitis at this time.

Acute peptic ulcer disease and a marginal ulcer in this patient who had a previous Billroth II gastrectomy many years before are real possibilities. The pain radiating to the back could certainly suggest a posterior perforation of the ulcer. I am unclear as to the progress of the pain while the patient was in the hospital (whether it got better or worse).

With a previous history of a Billroth II procedure, one must consider the blind loop or afferent syndrome due to either partial or complete obstruction of the afferent loop. This syndrome could certainly give rise to pain and a mass, the loop itself. Nausea and vomiting usually accompany this syndrome.

Acute perforation of the appendix is a possibility. This is usually associated with right lower quad-

rant pain but right upper quadrant pain due to a retrocecal appendix is a possibility.

Intestinal obstruction should have produced distention and hyperactive bowel sounds. You could get an elevated amylase with this condition. However, the patient's bowel habits were normal and this would be unusual. One must also always consider mesenteric thrombosis in an 84-year-old man. There is usually a high white count and no mass in this entity.

I think I can explain the whole syndrome on some sort of obstruction of the patient's afferent loop after the Billroth II gastrectomy. The increased pressure within the loop certainly would cause pancreatic duct obstruction and the elevated lipase and amylase. The loop itself could account for the mass or the mass could be a pseudocyst secondary to pancreatitis. One point against pancreatitis in this case is that there had been no history of previous attacks of pancreatitis. The mass could have been a pseudocyst of the pancreas but they do not usually develop this quickly in a matter of days but take several weeks before they are manifest. If this is afferent loop syndrome, I cannot explain the absence of nausea and vomiting, unless they occurred after he got into the hospital. For the same reason, I doubt intestinal obstruction. I think he should have had some vomiting and distention.

The patient had some abnormal studies such as raised PCO<sub>2</sub>, but this could have been due to decreased ventilation due to abdominal pain.

#### DR. JONGEWAARD'S DIAGNOSES

1. *Afferent Loop Syndrome.*
2. *Pancreatitis with Pseudocyst Formation.*

\*DR. W. L. JONES: Couldn't this whole thing have been explained by an abdominal aneurysm?

DR. JONGEWAARD: The mass was not pulsatile and I think it developed far too rapidly as the mass was not felt on admission. I would also have expected him to go into shock earlier.

DR. JONES: Do you think the patient had a myocardial infarct?

DR. JONGEWAARD: I think that is a possibility as a terminal event. However, he doesn't need that to explain his demise. He could easily have ruptured his afferent loop or have had severe pancreatitis.

DR. JONES: Does someone want to interpret the x-rays?

\*\*DR. D. L. ENSBERG: I do not see anything very diagnostic, probably because they are portable x-rays. A good possibility here would be posterior perforation of an ulcer with abscess formation.

\* Specialist in Internal Medicine, Sioux Falls; Clinical Faculty, School of Medicine, The University of South Dakota.

\*\*Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.



DR. JONGEWAARD: Wouldn't you have to have free air in the abdomen?

DR. ENSBERG: Not necessarily. Also, I wouldn't have expected an afferent loop syndrome to occur this long after surgery.

\*DR. GARY SINNING: If you have an obstructed loop and increased pressure causing pancreatic duct obstruction, wouldn't you also expect biliary obstruction?

DR. JONGEWAARD: You can have jaundice with an obstructed afferent loop.

\*\*DR. LLOYD SWEENEY: Do you think count of 11,000 is really elevated?

DR. BARLOW: Not really.

DR. SWEENEY: I think that the limits of the normal white count could be raised to 12,500 or more. I've just come from a meeting where this was discussed.

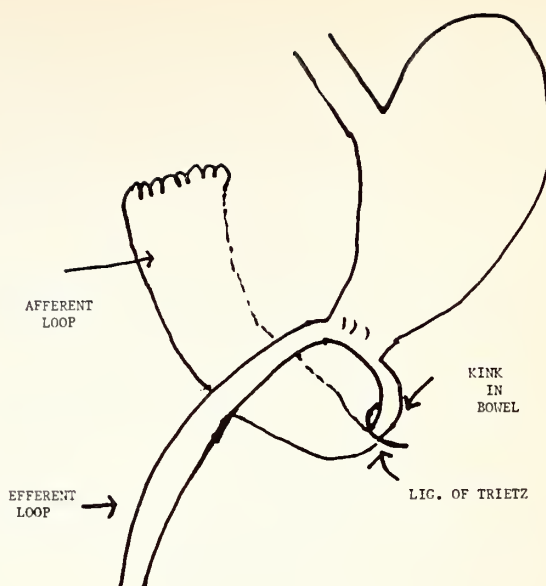
DR. JONGEWAARD: An older person, however, can frequently have severe infection or other emergencies and not have an elevated white count, is this not true?

DR. BARLOW: Yes, I think we see this frequently.

This was an extremely interesting case and I can't say I have ever really seen it before. This picture by our prosecutor, Dr. Putnam shows that there was indeed a kink in the afferent loop which has distended markedly. (Fig. I) This had perforated in several areas with abscess formation.

The patient did not have a myocardial infarct but did have idiopathic hypertrophic subaortic stenosis with left ventricular hypertrophy. This is also very unusual in a man of this age.

The afferent loop syndrome is uncommon but is seen after Billroth II gastrectomy or gastro-jejunostomy. The obstruction in the afferent loop is usually due to kinking or adhesions and if it occurs early after surgery, causes dehiscence of the duodenal stump. In the chronic form of afferent loop syndrome, there is a postprandial epigastric mass, nausea, upper abdominal pain relieved by vomiting. The mass disappears after the distended afferent loop has been emptied by vomiting. The x-ray is usually negative. The more serious complete obstruction (which is what we are dealing with today) of the afferent loop is characterized by unrelenting pain with no bile in the vomitus or no vomitus at all. The amylase may be elevated, due to mild pancreatic obstruction due to intraluminal pressure. The con-



BILLROTH II ANASTOMOSIS

Figure I

Diagram shows kink causing obstruction of afferent loop.

dition mimics many acute abdominal conditions (as has been pointed out this morning) and requires prompt surgical correction. The cause of the afferent loop syndrome is accumulation of biliary and pancreatic secretion in the afferent loop during a meal. The bile and pancreatic juice is then emptied into the stomach and vomited. The best way to handle the afferent loop syndrome is to prevent it by a proper size loop, a gastro-duodenostomy 5 to 15 cm. distal to the ligament of Treitz preferably rectocolic, forming a gastroenterostomy horizontally without kinking, and attaching the stoma to the greater curvature, (isoperistaltic anastomosis). Lastly, carefully, suturing the mesentery to prevent a hernia or kinking is necessary. If this syndrome does occur, reconstruction of the whole operation may be necessary. In an extremely ill patient, an enterostomy between the loops may be done with a vagotomy.

I would also like to point out that idiopathic hypertrophic subaortic stenosis (IHSS) which is characterized by fibrous or muscle hypertrophy of the region of the septum just below the aortic valve, is very rare in this age group. It is usually a familial entity seen under 30 and may be associated with dyspnea, angina pectoris, syncope palpitations and a systolic murmur. The patient did indeed have angina and was seen at the Mayo Clinic as well as here. He was thought to have coronary heart disease. Incidentally, he did indeed have coronary heart disease in addition to subaortic stenosis. Idiopathic

\* Intern, Sioux Valley Hospital.

\*\*Director, Family Practice Residency, Sioux Falls, South Dakota.

subaortic stenosis can be associated with atrial fibrillation and systemic embolism as well as endocarditis and sudden death. In this case the entire clinical findings could be explained on the basis of coronary heart disease as IHSS has been described recently in elderly patients in a clinically asymptomatic form.

#### FINAL ANATOMIC DIAGNOSES

1. Duodenal perforation with localized peritonitis secondary to afferent loop perforation after Billroth II procedure (20 years previous).
2. Coronary heart disease with myocardial fibrosis, diffuse.
3. Bronchopneumonia, acute.
4. Idiopathic hypertrophic subaortic stenosis with left ventricular hypertrophy.
5. Adenocarcinoma of the prostate, focal.
6. Aortic Atherosclerosis, moderate.
7. Nephrosclerosis, bilateral, marked.
8. Cerebral atherosclerosis, moderate.

DR. ENSBERG: I would like to comment on that picture of the operation which I would like to see again. This is worth 1000 words of description.

\*DR. K. R. BURNS: I've never seen this before. If I had had this patient I would have diagnosed a giant fundal ulcer with posterior perforation. Perhaps even more unlikely is splenic artery aneurysm causing the elevation of the amylase.

\* Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

\*\*Resident in Pathology, Sioux Valley Hospital.

DR. ENSBERG: I would like to know where the colon was in relation to the anastomosis.

\*\*DR. W. D. PUTNAM: The anastomosis was done posterior to the transverse colon.

DR. ENSBERG: Was his anastomosis below the transverse colon?

DR. PUTNAM: Yes.

DR. ENSBERG: Was there a hernia in the mesocolon?

DR. PUTNAM: No.

DR. ENSBERG: Then, this complication really shouldn't have happened. I cannot understand exactly what the mechanism was that triggered this obstruction.

DR. BARLOW: Well, I can't explain this myself, except I think that once some initial obstruction occurred the loop became big and twisted upon itself.

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### **Is He a Source of Information?**

Yes, with certain reservations. The average sales representative has a great fund of information about the drug products he is responsible for. He is usually able to answer most questions fully and intelligently. He can also supply reprints of articles that contain a great deal of information. Here, too, I exercise some caution. I usually accept most of the statements and opinions that I find in the papers and studies which come from the larger teaching facilities. It goes without saying that a physician should also rely on other sources for his information on pharmacology.

### **Training of Sales Representatives**

Ideally, a candidate for the position as a sales representative of a pharmaceutical company should be a graduate pharmacist who has a questioning mind. I don't think this is possible in every case, and so it becomes the responsibility

of the pharmaceutical company to train these individuals comprehensively. It is of very great importance that the detail man's knowledge of the product he represents be constantly reviewed as well as up-dated. This phase of the sales representative's education should be a major responsibility of the medical department of the pharmaceutical company.

I am certain that most of these companies take special care to give their detail men a great deal of information about the products they produce — information about indications, contraindications, side effects and precautions. Yet, although most of the detail men are well informed, some, unfortunately, are not. It might be helpful if sales representatives were reassessed every few years to determine whether or not they are able to fulfill their important function. Incidentally, I feel the same way about periodic assessments of everyone

in the health care field, whether they be general practitioners, surgeons or salesmen.

### **Value of Sampling**

I personally am in favor of limited sampling. I do not use sampling in order to perform clinical testing of a drug. I feel that drug testing should rightly be left to the pharmacology researcher and to the large teaching institutions where such testing can be done in a controlled environment.

I do not use samples as a "starter dose" for my patients. I do, however, find samples of drugs to be of value in that they permit me to see what the particular medication looks like. I get to see the various forms of the particular medication at first hand, and if it is in a liquid form I take the time to taste it. In that way I am able to give my patients more complete information about the particular medications that I prescribe for them.

capacity they are indeed useful; particularly in the fact that they disseminate broadly based educational material and serve not just as "pushers" of their drugs.

### **The Other Side of the Coin**

Obviously, the pharmaceutical companies are not producing all this material as a labor of love — they are in the business of selling products for profit. In this regard the ambitious and improperly motivated sales representative can exert a negative influence on the practicing physician, both by presenting a one-sided picture of his product, and by encouraging the practitioner to depend too heavily on drugs for his total therapy. In these ways, the salesman has often distorted objective reality and undermined his potential role as an educator.

### **The Industry Responsibility**

Since the detail man must be an information resource as well as a representative of his particular pharmaceutical company, he should be carefully selected and

thoroughly trained. That training, perforce, must be an ongoing one. There must be a continuing battle within and with the pharmaceutical industry for high quality not only in the selection and training of its sales representatives, but also in the development of all of its promotional and educational material.

The industry must be ready to accept constructive as well as corrective criticism from experts in the field and consumer spokesmen, and be willing to accept independent peer review. The better educated and prepared the salesman is, the more medically accurate his materials, the better off the pharmaceutical industry, health professionals and the public—*i.e.*, the patients—will be.

### **Physician Responsibility**

The practicing physician is in constant need of up-dated information on therapeutics, including drugs. He should and does make use of drug information and answers to specific questions supplied by the pharmaceutical representative. However, that informa-

tion must not be his main source of continuing education. The practitioner must keep up with what is current by making use of scientific journals, refresher courses, and information received at scientific meetings.

The practicing physician not only has the right, but has the responsibility to demand that the pharmaceutical company and its representatives supply a high level of valid and useful information. I feel certain that if such a high level is demanded by the physician as well as the public, this demand will be met by an alert and concerned pharmaceutical industry.

From my experience, my impression is that sectors of the pharmaceutical industry are indeed ethical. I challenge the industry as a whole to live up to that word in its finest sense.

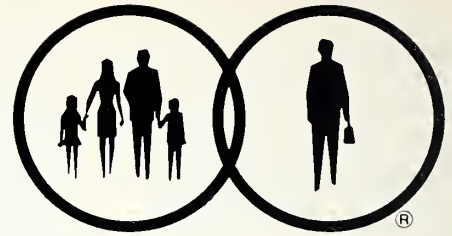
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# SOUTH DAKOTA CHAPTER NEWS



SOUTH DAKOTA ACADEMY OF FAMILY PHYSICIANS  
3001 South Holly Avenue  
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Our chapter "FP" Club at USD School of Medicine had its first meeting of the year at Vermillion on Friday, November 1, 1974, reports Chairman Gary L. Welsh, M.D. of Lead, South Dakota. Wine and cheese followed a "Family Practice Panel." A second meeting will be held during the winter months, probably in Sioux Falls, to be arranged by a committee of Jerry Walton, M.D.; Larry Finney, M.D. and Larry Sittner, M.D. all of Sioux Falls. This meeting is also planned to be a second state chapter meeting. Details will follow in the near future. Marion Laboratories is again sponsoring these "FP" Club events, a fine endeavor by this drug firm.

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Several SDAFP members wrote the recent ABFP exam. There are currently 29 diplomates, ABFP, certified in South Dakota. Watch the **Family Physician Journal** for the dates and deadlines regarding the 1975 certification exam.

—————

Our SDAFP Chapter strength is now 100 active members, 21 associate members, 11 active-exempt members, plus other categories giving us a current membership of 139. Members not paying their 1974 dues during the year will be dropped early in 1975. Also, those members due for recertification at the end of this year will be dropped if they have not authenticated 150 postgraduate hours by the end of the year. Please send study cards to the state office address listed above.

—————

Dates for the 1975 Black Hills Seminar will be Friday and Saturday, August 15-16, at the Howard Johnson Motor Lodge in Rapid City. President Wenzel J. Kovarik is Chairman for this annual scientific session and state chapter annual meeting.

—————

The Board of Directors, Family Practice Center, Inc., in Sioux Falls, sponsors of the Sioux Falls Family Practice Residency, report that they have sanctioned an increase in residency slots from four to eight, now allowing eight residents in each of the three years of residency training. Resident applicants are now being interviewed for the first year's slots, to begin July 1, 1975. The first two graduates of the Sioux Falls Residency Program will finish July 1, 1975. This program is currently sponsored by McKennan and Sioux Valley Hospitals. Associate AAFP dues for these residents are paid for by SDAFP.

—————

The Provisional Accreditation Team, representing the Liaison Committee on Medical Education, examined the newly forming USD School of Medicine October 29-31. Receipt of this accreditation is necessary to allow the entrance of a third year class in 1975. Results of this visit will be known early in 1975, and will be reported by Karl H. Wegner, M.D., Dean of the USD School of Medicine.

—————

Delegates Lloyd J. Sweeney, M.D. and Loren H. Amundson, M.D. represented our state chapter at The Congress of Delegates, AAFP, held in Los Angeles, October 14-17, 1974. Several chapter members received their Charter Fellowship in AAFP, the last year class of Charter Fellows. Herbert A. Holden, M.D. of San Leandro, California, was elected President, AAFP, for the next year.

—————

A committee composed of Richard Friess, M.D.; Curtis Wait, M.D. and L. H. Amundson, M.D. with Dean Karl H. Wegner, M.D. serving as advisor, are working on details for a newly sanctioned SDAFP award for the medical school, to be named The SDAFP Memorial Merit Scholarship Award. Details will be reported in a later issue.

—————



# Letters to the Editor

Thank you very much for the check to assist in defraying the expenses incurred while attending the American Medical Association meeting. I enjoyed the meeting tremendously and am grateful for the opportunity to attend.  
Thank you very much.

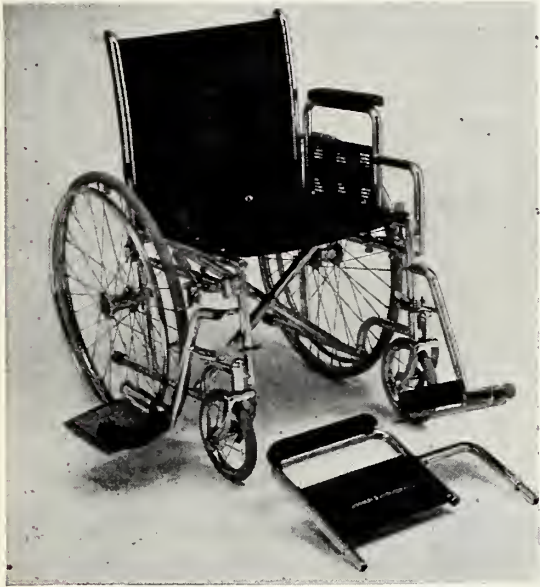
Sincerely,  
Audrey L. Adams  
Vermillion, S.D.

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# The more physicians consider the hemodynamics of lowering blood pressure...

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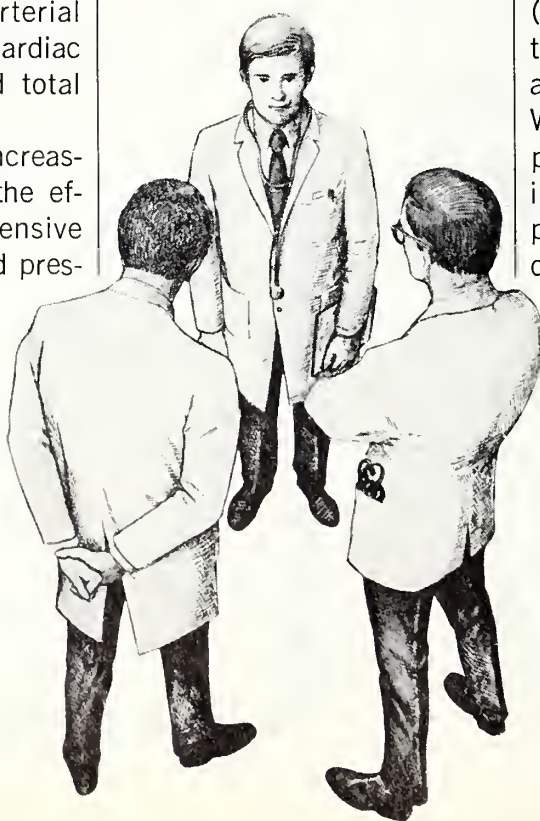
And so, physicians are increasingly concerned with the effects of an antihypertensive agent not only on blood pres-

sure itself but also on the hemodynamic pattern—in short, with the total effect of the drug. Does it indeed help lower blood pressure effectively? Is peripheral resistance reduced? Are cardiac output and renal functions main-

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**Warnings:** Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive dis-

orders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anti-convulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms (similar to those with barbiturates and alcohol) have occurred following abrupt discontinuance (convulsions, tremor, abdominal and muscle cramps, vomiting and sweating). Keep addiction-prone individuals under careful



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For further information on this subject, the following references are provided:

1. Henry BW, *et al*: *Dis Nerv Syst* 30:675-679, Oct 1969.
2. Hollister LE, *et al*: *Arch Gen Psychiatry* 24:273-278, Mar 1971.
3. Claghorn J: *Psychosomatics* 11:438-441, Sept-Oct 1970.

surveillance because of their predisposition to habituation and dependence. In pregnancy, lactation or women of child-bearing age, weigh potential benefit against possible hazard.

**Precautions:** If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies.

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# CLINICOPATHOLOGICAL CONFERENCE

*From the Intern and Resident Teaching Conferences at the Sioux Valley Hospital, conducted by the Department of Pathology of the Hospital and of the School of Medicine of the University of South Dakota*



## TWELVE YEAR OLD GIRL WITH SUDDEN ONSET OF RIGHT LOWER QUADRANT PAIN

**Bernard J. Begley, M.D., FACU\***  
*Urologist-Discusser*

**John F. Barlow, M.D., FCAP\*\***  
*Pathologist-Editor*

### CASE NO. 619416

This twelve year old white female was admitted to Sioux Valley Hospital with a chief complaint of acute right lower quadrant abdominal pain with vomiting of three days duration.

Three days before admission the patient developed increasing right lower quadrant abdominal pain and vomiting. She had an elevated white count and was explored surgically but a normal appendix was found. In the retroperitoneal space below the appendix a cystic structure was found from which was aspirated cloudy murky fluid with a 25 gauge needle. The retroperitoneal space was closed and she was sent to a urologist for further evaluation. There was hematuria after the insertion of the needle at operation but not before. There was also dysuria after the operation but not before.

The patient had been evaluated approximately five years before admission for recurrent urinary tract infections. At that time she had had cystoscopy, cystogram, retrograde studies, and intravenous pyelogram. There was a question of meatal stenosis. The meatus was dilated. At that time the distal right ureter was reported as slightly closer to the midline than normal and slightly dilated. Since the urinary tract evaluation the patient had had no urinary difficulties, no bedwetting, no acute infections, no dysuria, frequency, back pain, chills, or fever. The patient had otherwise been in very good health. The patient did develop some puffiness on many medications including penicillin.

**PHYSICAL EXAMINATION:** Temperature 100.8°F, (the temperature did reach 102.6 the day after admission) pulse 92 per minute and regular, respirations 16 per minute and regular, blood pressure 114 systolic and 76 diastolic, weight 101 pounds 8 ounces. The patient was in no distress. Examination of the head and neck was unremarkable. The lungs were clear to auscultation and percussion. The heart was not enlarged to percussion. There was a normal sinus rhythm and no murmurs. Examination of the abdomen showed that the patient did have bowel sounds and was

passing flatus. She had a fresh incision in the right lower quadrant. A catheter was in place in the urethra. There were no organs or masses palpated.

**LABORATORY DATA:** Urinalysis: yellow clear; specific gravity 1.010; pH 6.0, protein 2+, negative for glucose, ketones, bile, hemoglobin-moderate, sediment—many leukocytes/hpf, 5-15 red cells/hpf. Hemoglobin 12.3 gms/dl, red count 4.32 million/mm<sup>3</sup>, hematocrit 38 vols/dl, mean corpuscular hemoglobin 28 micromicrograms, mean corpuscular volume 85 cubic micra, mean corpuscular hemoglobin concentration 33%, total leukocyte count 5,900/mm<sup>3</sup> with 55% segmented neutrophils, 3% neutrophilic bands, and 2% eosinophils, 32% lymphocytes, and 8% monocytes. The red cells were normochromic, normocytic and the platelets normal in number and morphology. Wound, vaginal, and urine cultures grew out *Escherichia coli* sensitive to all antibiotics tested. Blood urea nitrogen was 12 mgs/dl. Cystogram and retrograde pyelogram showed deviation of the right ureter medially. An 11 cm. x 5 cm. cavity in the midline which was filled with radioopaque dye was demonstrated. An operation was performed.

**DR. BERNARD BEGLEY:** In summary, we have a little girl, twelve years old, who underwent an appendectomy which is often the first step in relief of urinary tract obstruction on the right side. This includes lower or upper urinary tract obstruction. When the surgeon entered the abdomen, he did indeed find a normal appendix and removed it (I assume). He found a cystic structure in the retroperitoneal which contained cloudy non-bloody fluid. In this anatomic region there is the ureter. I suppose a diverticulum of the bladder could be located in this position. There apparently was communication with the urinary tract as the patient had hematuria after the insertion of the needle and not before.

The patient had been worked up five years previously and had had a meatal dilatation. This apparently relieved the problem as she had no symptoms in the intervening time. It does not say what the results of the urologic studies were; but if both duplicated ureters were draining functional renal tissue, it certainly should have been detected by intravenous pyelography. However, we cannot rule out some sort

\*Urologist, Sioux Valley Hospital; Assistant Dean, School of Medicine, The University of South Dakota.

\*\*Pathologist, Laboratory of Clinical Medicine and Sioux Valley Hospital; Professor of Pathology, School of Medicine, University of South Dakota.

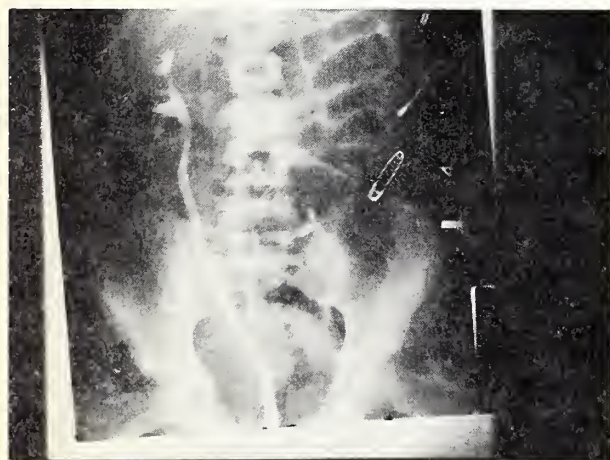
Supported in part by Clinical Cancer Training Grant T12 CA 08032 from the National Cancer Institute of the National Institute of Health, U. S. Public Health Service.

of duplication as a duplicated ureter may have been draining nonfunctional or poorly functioning renal tissue. I hope that an ectopic orifice of the ureter was not overlooked as these can drain into the urethra, vagina, or bladder.

There is no mention in the physical examination as to whether the child was entering into puberty with the menarche. There is mention of hydrometrocolpos or hematocolpos as a diagnostic possibility. If the child was pubertal, I would expect the fluid in the vagina to have been hemorrhagic if the child had an imperforate hymen or atresia of the vagina. These entities are usually found much earlier either by the parents or during the pediatric physical examination.

In the laboratory data the only significant finding is the child definitely had a urinary tract infection as indicated in the urinalysis. I think that this child had a retroperitoneal mass which probably represented ureter. A bladder diverticulum would be very unusual in this region. I feel that the patient had a duplicated ureter. I am always afraid that this will be a case that I had investigated previously and one I missed. May I see the x-rays?

\*DR. ALLAN J. HARTZELL: Here is one of the films from 1969 (Fig. I) when she had her original investigation of multiple recurrent infections of the urinary tract.



**Figure I**

**Retrograde five years previous showing medial deviation of ureter. Similar x-ray picture seen at time of recent surgery.**

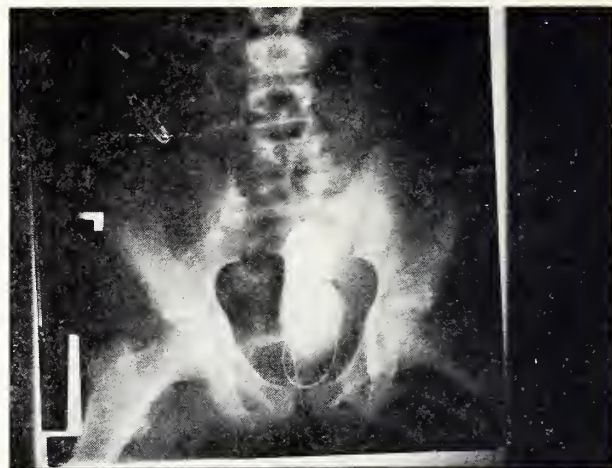
DR. BEGLEY: The ureter is medially displaced and this finding is certainly against a diagnosis of hydrocolpos or hematometrocolpos. The calyceal pattern has three good clusters of calyces. This is not the type of pattern one usually gets in a duplication. In

\* Urologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota

\*\*Urologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

the usual situation with a duplicated ureter, you have two clusters of calyces or obvious displacement of the upper urinary tract from the x-ray.

DR. HARTZELL: This is a similar picture from 1974 and finally this is an injection of a small orifice found high and just inside the vagina. (Fig. II) This was the cavity filled with dye referred to in the protocol.



**Figure II**

**Injection of ectopic orifice in vagina with contrast material shows dilated cavity which proved to be ectopic ureter.**

DR. BEGLEY: She was not incontinent?

DR. HARTZELL: No.

DR. BEGLEY: Well, undoubtedly this is an ectopic orifice of a duplicated ureter. I would have excluded that on the basis of lack of incontinence. Usually these ectopic ureters if they were to empty into the anterior urethra result in incontinence in the female. This could have been missed on the previous examination but I would doubt that an ectopic orifice into the bladder would have been missed and this would not have led to incontinence. The usual picture of an ectopic ureter in the female is constant incontinence even though there is a normal voiding. The patient has two good functional kidneys usually with good control and then a portion of a kidney is producing urine into a ureter with a ectopic orifice which is not guarded by good sphincteric control.

\*\*DR. JOHN A. OCHSNER: Well, the hematuria after the puncture is certainly a red herring because the patient shouldn't have bled if you punctured an ectopic ureter which did not even drain urine.

DR. HARTZELL: I think I can explain this by the findings at operation. Because of the cystically dilated mass, I was persistent in trying to find an ectopic orifice. The case, indeed, is just as Dr. Begley has described. However, as he mentioned I was misled by the intact calyceal pattern of this kidney. There was an ectopic ureter from the upper pole



of the kidney. This, however, was entwined with the normal ureter in a common sheath in such a way that I am sure the needle puncture could have caused bleeding into either the abnormal ureter which was ectopically emptying into the vagina or the normal lower ureter which emptied into the bladder. Also the hematuria occurred not long after a catheter was placed in the bladder. This also could have given rise to bleeding. On cystoscopy other than a little catheter cystitis, the bladder looked normal. This is a difficult thing to say in a child but the right base of the bladder and trigone seemed to be elevated. I then cystoscoped the vagina and found a lot of infection. I injected the bladder with indigo carmine and still did not find any ectopic orifice in the vagina. As a last resort I did a digital exam on the vagina and I got a squirt of pus but I did not know where it came from. I finally was able to identify the area from which the pus was coming just inside the labia majora.

DR. BEGLEY: Was this near the midline?

DR. HARTZELL: It was near the midline but definitely on the right side.

DR. BEGLEY: I wonder whether this is an ectopic ureter or a ureter entering into a Gartner's duct.

DR. HARTZELL: That is certainly a consideration. The cavity you see filled with dye is an injection of this orifice about which I spoke. (Fig. II). I also obtained some murky fluid from which I sent a culture. *Escherichia Coli* was reported. I injected about 30 cc's. of contrast material into this sac. At the time of surgery, I could definitely show that this dilated sac was a duplicated ureter with an ectopic ureteral orifice. The ureter did go all the way to the upper pole of the kidney where a sacular nubbin of kidney with very few nephrons was located. I suspect that the reason the patient was not incontinent was that there was very little functioning tissue to give rise to urine. The kidney probably stopped functioning some years previous. I think the striking thing is that the patient was asymptomatic and didn't have symptoms and signs of infection with this abnormality described.

DR. BARLOW: Here is a picture of the dilated sac-like structure which includes the remnant of kidney and the ureter. (Fig. III). Microscopically the ureter showed chronic active inflammation and the kidney showed tubules with rare glomeruli with chronic active inflammation.

DR. BEGLEY: There is an old rule in urology which we used to call the Smith-Weigert law, but they now call the Meyer-Weigert law. This principle

states that duplicated ureters from upper segments of the kidney enter lower or more distantly than the ureter from the lower kidney segments. This goes back to embryologic considerations. Rarely this situation does not occur and this is called the inversion of the Smith-Weigert law. In other words, if you're looking into the bladder and there are two orifices, it is usually a reversal with the ureteral orifice nearest to you emptying the upper portion of the kidney.



Figure III

Gross photograph of massively dilated ureter (several segments) which was the duplicated ureter leading to the ectopic orifice in the vagina. The atrophic kidney is at the end nearest the card.

DR. HARTZELL: I should have mentioned that I was not able to resect all of this. I left a portion of the dilated ureter down near the vagina going into the pelvis because I thought that contaminating the pelvic region might give rise to pelvic infection as the whole duplicated system seemed to be markedly infected. I thought that if operation was necessary at a later time, residual remnants could easily be removed after infection had resolved. The renal segment of the upper pole of the kidney had no appreciable vessels going into it and was easily dissected free.

\*DR. B. J. WILLIAMS: You didn't enter the pelvis to examine the female genitalia?

DR. HARTZELL: No, I didn't. I thought there was too much danger of spreading infection to this region and did leave the remnant as I discussed. On the vaginal examination, only one cervix was present but it was pointing to the right side. I am sure the size of the cystic structure was deviating her pelvic organs and raising the base of the bladder.

DR. BARLOW: I would just like to go over some common points about duplications of the ureteral system. Double ureters are seen to a variable extent in from 4-6% of autopsies. They are most commonly

\*Obstetrician and Gynecologist, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.

asymptomatic and seen more commonly in females. They communicate with the kidney in almost all instances. 80% are unilateral and two thirds are incomplete and usually joined to form a ureter in the lower third, called the Ureter of Stephens. The upper ureter usually only drains 1-2 calyces and often passes behind the ureter draining the lower and usually larger portion of kidney. The ureter draining the lower portion of the kidney also enters the bladder at a higher position than that draining the upper portion of kidney. This has all been discussed by Dr. Begley. Obstruction to the urinary tract can be at the junction of abnormal with normal ureter or the upper ureter can cause blockage of the lower ureter by compression since the ureter draining the upper portion of kidney is posterior and crosses to a lower portion.

Ectopic ureters can be referred to as ectopic ureteroceles. The usual ureterocele empties into the bladder and is a dilated structure with an obstructed orifice. The ectopic ureterocele is not obstructed at its orifice. The ureter or ureterocele with an ectopic orifice can be compressed as it courses through various tissues. Ectopic ureter is a disease of the female and the ectopic orifice can communicate with the vagina, urethra or rectum.

DR. BEGLEY: The term ectopic ureterocele is a poor one. Dr. Flocks preferred ectopic ureter. The confusion arises because some authors of the 50's said any cystic dilatation of the ureter if lined by urinary epithelium was a ureterocele.

DR. BARLOW: I agree ectopic ureter seems more reasonable. The lesion is rare in males and usually enters proximal to the verumontanum. Therefore, males are usually continent. In females the ureter ends in urethra or vagina and leads to incontinence in spite of periodic voiding as Dr. Begley described. In this case, of course, we did not have incontinence since the ureter drained nonfunctional renal tissue. 80% of ectopic ureters drain duplicated systems. It is almost always the superior ureter that is ectopic. DR. BEGLEY: It is always very important to do an intravenous pyelogram when looking for a duplicated ureter, because you can miss it completely during retrograde studies. Of course, you have to have functioning tissue with a duplicated ureter for it to be detected on intravenous pyelography. This was not the case today.

DR. HARTZELL: Occasionally the ureter which is furthest from the cystoscopist and which is draining the larger, lower portion of the kidney may be

placed back in the bladder so vesicoureteral reflux and infection occur due to incompetence of the usual mechanism preventing such reflux. This mechanism is due to contraction of the bladder muscle which acts as a sphincter preventing reflux on voiding. We have had to reimplant several ureters from the lower portion of the kidney in a duplicated pair since it did not course through enough bladder muscle to prevent reflux.

\*DR. DAN MORTON: How did the patient do in spite of the fact all of the infected tissue was not removed.

DR. HARTZELL: Very well.

DR. OCHSNER: I would like to make one more point and that is doing a good bimanual examination of these girls when under anesthesia.

DR. BEGLEY: I second that and that there is also no better time to do a vaginoscopic examination. Occasionally, you come up with a foreign body or can recognize an imperforate hymen at this time.

DR. HARTZELL: Perhaps if a rectovaginal examination had been done, a squirt of pus would have been seen as happened to me at cystoscopy. This may have avoided the surgery and appendectomy.

\*\*DR. R. E. NELSON: I think we should have a moment of silence for the general surgeon who got trapped again. Fortunately, it was not me this time.

DR. BEGLEY: As I said at the beginning of this, one of the first steps in the relief of urinary obstruction on the right side is often an appendectomy.

DR. NELSON: That seems to be a good enough note to end on.

#### **DR. B. J. BEGLEY'S DIAGNOSIS:**

*Duplicated urinary system with dilatation and ectopic ureter on right.*

#### **FINAL ANATOMIC DIAGNOSES:**

1. Double right ureter with chronic active inflammation.
2. Remnant of right kidney with minimal functional renal tissue and severe chronic active inflammation.

#### **BIBLIOGRAPHY**

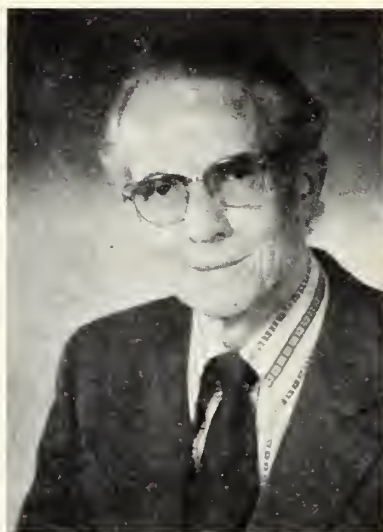
1. *Pathology of Infancy and Childhood*, Kissane and Smith, C. V. Mosby & Co., pp. 597-604, 1967.

\* Intern, Sioux Valley Hospital.

\*\*General Surgeon, Sioux Valley Hospital; Clinical Faculty, School of Medicine, The University of South Dakota.



# P R E S I D E N T ' S P A G E



Of the many requests for donations received in doctors' offices in December, probably none are more worthy of consideration than those for the AMA-ERF and the S. D. Medical School Endowment Fund. In 1962 the AMA set up its Education and Research Foundation to help qualified medical students. Since then more than \$57 million in loans have been made to more than 26,000 medical students, interns and residents. Donations to this fund can be specified for the school of your choice. Unrestricted funds are needed for developing future physicians through the Explorer Scout medical program, recruiting young people for health careers and other additional projects. Your contribution is tax-deductable and none of it will be used for promotional or administrative expense.

The S. D. Medical School Endowment Fund originated with Dr. Louis J. Pankow who suggested each doctor give annually one dollar for each year since graduation from medical school. The fund has been carefully managed and has now grown to a total of \$186,129.46 used primarily for the U. S. D. medical student loans; it has been a great help to the 161 students who have used it.

Contributions to each of these funds may be sent to 608 West Ave., N., Sioux Falls, S. D. 57104.

Your elected officers and staff of the South Dakota State Medical Association wish you and yours a Happy Holiday Season and a Good New Year!

Sincerely,  
Robert E. Van Demark, M. D.  
President  
South Dakota State Medical Association



RICHARD C. ERICKSON  
President



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Ben Johnson



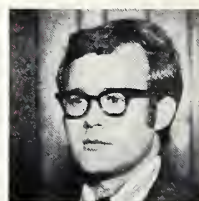
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Randy Tuffs



Jenn Olson



Dennis Brown



Judee Schlosser



Robert Green



Peter Galindo



Barb Ensiz



Phil Davis

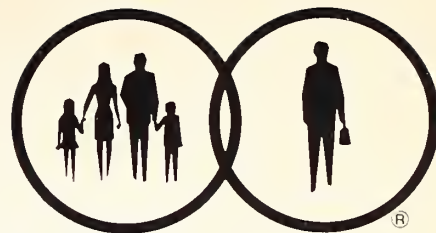
MERRY CHRISTMAS  
And A  
HAPPY NEW YEAR  
From  
The Executive and Senior Staff  
of  
South Dakota Blue Shield



# SOUTH DAKOTA CHAPTER NEWS



SOUTH DAKOTA ACADEMY OF FAMILY PHYSICIANS  
3001 South Holly Avenue  
Sioux Falls, SD 57105



Did you know that about one-half of the practicing physicians, general and family oriented, in South Dakota belong to SDAFP/AAFP? Support the primary care movement . . . join the American Academy of Family Physicians. The Academy is the nation's largest medical specialty association (more than 35,000 members) and the only medical association which requires continuing medical education. For further information about Academy membership, contact:

American Academy of Family Physicians  
1740 West 92nd Street  
Kansas City, Missouri 64114  
or write to the address above.

AAFP Continuing Education Requirements—Please send your completed 1974 study card to the State Office shortly after January 1, 1975. Your re-certification will depend upon authentication of the proper number and type of hours.

1. Each Academy member must complete 150 hours of acceptable postgraduate study every three years. Of these 150 hours, 75 must be obtained from prescribed scientific medical or socioeconomic sources.
2. Each state shall have the option of requiring its members to obtain a maximum of 25 of the 75 prescribed hours from that state chapter's produced or approved courses. In this case, it shall be the responsibility of the state chapter to properly identify these programs to its members. (No state requirement by SDAFP).

3. Academy members may select activities for prescribed credit from the following sources:

- A. Local, state or national Academy produced or cosponsored programs approved by the Commission on Education at least 30 days in advance.

- B. Medical school, postgraduate medical schools, or medical school postgraduate programs produced in cooperation with the department or division of family practice in that school, or in cooperation with the local chapter of the American Academy of Family Physicians and approved by the Commission on Education at least 30 days in advance.

- C. Publication of an original scientific or socioeconomic paper in a state or national medical journal. Limit 15 hours per paper.

- D. Teaching medical students or physicians. Hour for hour, with a limit of 30 hours each three years.

- E. Seminars and other postgraduate programs designed for Academy members planned and offered directly by hospitals with family practice residencies, provided they are approved by the Commission on Education.

- F. See your study card for further requirements and for elective hours.

My Dear Fellow Members:

This is my first opportunity to address you in print as your President; therefore, I would like to use it to express my concern for the membership of the AAFP in our state. There are many of you doing family practice that are not yet members of the AAFP. This is a more active organization today and certainly should be involved in any National Health Care Program that is enacted. It is up to the practicing physician to help make this a workable program, and I believe the Academy of Family Physicians can be the spokesman for all of us. The Academy has been a leader for years in the requirements of continuing education which is so necessary today.

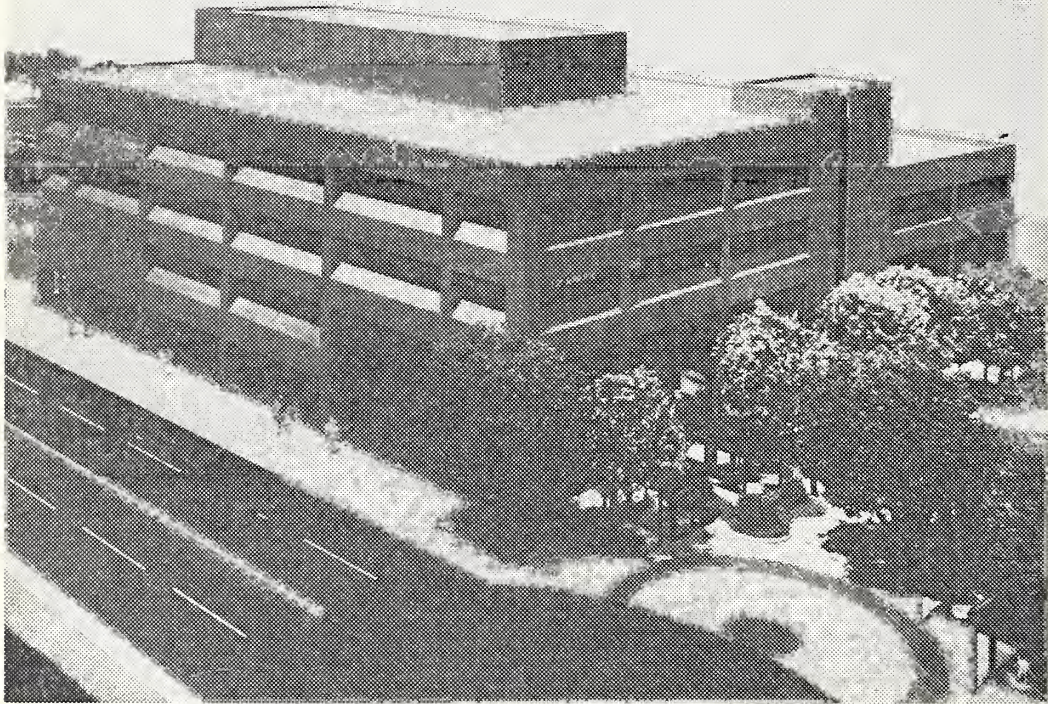
I would also urge all of you members who have not yet made arrangements to take the Boards to get the requirements up to date and your applications in, as there is a definite time limit established now. It also appears that the term, "Board Eligible," will be obsolete so that procrastination will get you nowhere. The more informed we are as physicians, the better equipped we are as teachers. Hence, we are better prepared to accept the responsibility of teaching in our new four year medical school program.

Finally, I would like to encourage each of you to become more active in your AAFP. There is no better way today for you to voice your principles in the policy-making of the practice of medicine. The Family Practice Club at the Med School needs some enthusiasm from us and it is a very good way to encourage young physicians to stay in the state. If there are any problems that Loren or I can help you with, please let us know.

Sincerely,  
Wenzel J. Kovarik, M. D.  
President, SDAFP



***The shape of things to come!***



It's much more than a building to us, it's faith in the future of our area and its people.

We are building for tomorrow and we hope our plans for the future include you.



**FIRST NATIONAL BANK**  
**IN SIOUX FALLS**

DOWNTOWN • WESTERN MALL • INDUSTRIAL BRANCH



*This is your*

# MEDICAL ASSOCIATION

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## News Notes • Changes • Births • News

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The American Heart Association, Dakota Affiliate, Inc., has announced the appointment of **Bruce Lushbough, M. D.**, Brookings, to its Board of Directors. This organization is a merger of the North and South Dakota Heart Associations and will operate on a five year pilot basis in an effort to increase the effectiveness of the heart association.

\* \* \* \*

**T. H. Sattler, M. D.**, Yankton has been named professor and temporary chairman of medicine at the University of South Dakota School of Medicine. Dr. Sattler is a graduate of the USD School of Medicine and received his M. D. degree from Northwestern University. He received his residency training in internal medicine at Wesley Memorial Hospital, Chicago, and was certified by the American Board of Internal Medicine in 1950. Dr. Sattler is a past president of the South Dakota State Medical Association.

\* \* \* \*

**R. G. Nemer, M. D.**, Gregory has been appointed assistant clinical professor of family practice at Creighton University. Creighton family practice residents will work with Dr. Nemer in Gregory on a rotation basis for their specialty training in family practice.

**B. T. Otey, M. D.**, Flandreau, received the Outstanding Service Award of the American Cancer Society, South Dakota Division, at its annual meeting held in Rapid City. **J. S. Devick, M. D.**, Colton, was elected President of the South Dakota Division and **B. J. Williams, M. D.**, Sioux Falls, was elected Vice President/President Elect.

\* \* \* \*

**Charles Pelton, M. D.**, Gettysburg, has been appointed an active member of the American Academy of Family Physicians. He has also been appointed chairman of the Environmental Medical Commission by the South Dakota Chapter of the AAFP.

**John Stransky, M. D.**, Watertown; **Werner Klar, M. D.**, Flandreau; **Donald Scheller, M. D.**, Arlington; and **Alvin Scheffel, M. D.**, Redfield, have retained their membership in the American Academy of Family Physicians.

\* \* \* \*

The following South Dakota physicians have received the 1973 AMA Physicians Recognition Award: **S. W. Allen, M. D.**, Watertown; **E. J. Batt, M. D.**, Sisseton; **G. R. Bell, M. D.**, De Smet; **Kendall R. Burns, M. D.**, Dorence Ensberg, **M. D.**, Dennis Johnson, **M. D.**, **J. R. Luckasen, M. D.**, **E. H. Peters, M. D.**, **W. O. Rossing, M. D.** and **S. J. Sochocky, M. D.**, all of Sioux Falls; **Roscoe Dean, M. D.**, Westington Springs; **S. A. Helgaas, M. D.**, Brookings; **J. M. Herman-son, M. D.**, Valley Springs; **E. J. Moore, M. D.**, Vermillion; **R. G. Nemer, M. D.**, Gregory; **J. A. Nylund, M. D.**, Ellsworth AFB; **Brooks Ranney, M. D.**, Yankton; **E. C. Smart, M. D.**, Belle Fourche; and **J. J. Stransky, M. D.**, Watertown.

\* \* \* \*

Members of the Yankton Kiwanis Club viewed the film, "The Pulse of Life," which depicts developments in artificial respiration and artificial circulation. The film and discussion were presented by **D. B. Reaney, M. D.**, Yankton.

YOUR  
CONTRIBUTION  
TO THE  
SOUTH DAKOTA  
MEDICAL SCHOOL  
ENDOWMENT  
FUND  
IS NEEDED

A number of new physicians have located in South Dakota recently. They include **Joseph McDonald, M. D.**, an internist with the Rapid City Medical Center; **Michael J. Brown, M. D.**, a general practitioner in Spearfish; **Adrian Almquist, M. D.** and **Jerry Lewis, M. D.**, both with the National Health Service Corp. in Faulkton; **Peter Rodman, M. D.**, a general practitioner with the Mitchell Clinic; **John McFee, Jr., M. D.**, a family practice physician in Ipswich; and **Francis Pissney, M. D.** and **Tan Platt, M. D.**, both National Health Corp physicians in Martin. Physicians who have relocated within the state include **C. A. Johnson, M. D.** who has moved from Lemmon to Vermillion, and **John Nanson, M. D.** who has relocated from Lemmon to Brookings.

\* \* \* \*

**Mark Williams, M. D.**, former South Dakota physician, died at age 71 in Buffalo, Minnesota. Dr. Williams attended the University of South Dakota Medical School and received his degree from Rush Medical College. He practiced in North Dakota and served in the army prior to establishing a practice in Conde in 1946. In 1956 he joined the staff at the V. A. Hospital in Sioux Falls. He was transferred to the Minneapolis V. A., Fort Snelling, in 1965 and retired to Buffalo in 1971. Dr. Williams was active in the Boy Scout movement for over 30 years, a community and church leader and an honorary member of the South Dakota State Medical Association. He is survived by his widow, Nina; two sons, Mark and Paul, both of Minneapolis; and a daughter, Mrs. David Simmons, Evergreen, Colorado.

**Bruce Lushbough, M. D.**, Brookings, was elected to a three-year term on the Brookings school board.

\* \* \* \*

**W. P. Damm, M. D.**, 74, died August 18 in Redfield, South Dakota. Following graduation from the University of Iowa in 1927 and internship at the Charles T. Miller Hospital, St. Paul, he practiced in Iowa, Minnesota and Montana. He moved to Redfield in 1940 and was employed at the Redfield State Hospital and School. He served as superintendent of the institution for two years and was clinical director at the time of his retirement in 1971. Dr. Damm was a member of the Aberdeen District Medical Society, the South Dakota State Medical Association and the American Medical Association. He is survived by his wife and a son, Philip, both of Redfield.

\* \* \* \*

**Loyola D. Taylor, M. D.**, died at a Rochester, Minnesota, hospital following a brief illness. She received her M. D. degree from Louisiana State University School of Medicine, interned at Southern Baptist Hospital in New Orleans and completed an anesthesiology residency at Touro Infirmary, New Orleans. She married Dr. William R. Taylor in 1952 and in 1958 they moved to Aberdeen. Dr. Taylor was a member of the American Lutheran Church Women, PEO, St. Luke's Hospital Auxiliary and the Aberdeen District, State and AMA Auxiliaries. She is survived by her husband, one son, William, Jr., United States Military Academy, West Point, New York; two daughters, Ann, Gustavus Adolphus College, St. Peter, Minnesota; and Claire, Williams College, Williamstown, Massachusetts.

**B. E. Strauss, M. D.**, Dayton, Ohio, and former South Dakota resident, died of a heart attack recently. He began his practice in Veblen, South Dakota, in 1952 and later moved to Parker where he practiced until leaving the state in 1970. Dr. Strauss was a past member of the Seventh District Medical Society, the South Dakota State Medical Association and the American Medical Association. He is survived by his wife, two sons and one daughter.

\* \* \* \*

**J. E. Bruner, M. D.**, former South Dakota physician, died at age 94 in San Diego, California. Dr. Bruner graduated from Rush Medical College in 1904. He practiced in Iowa for three years prior to moving to Hecla where he practiced for two years. He then practiced in Frederick until 1931 when he moved to Aberdeen. In 1951 Dr. Bruner was named South Dakota General Practitioner of the Year by the State Medical Association. In 1952 he retired and moved to San Diego. He is survived by his widow, and a daughter, Blanche.

\* \* \* \*

**Sion F. Sherrill, M. D.**, Belle Fourche, died at age 65 following an illness. Dr. Sherrill was a 1931 graduate of the University of Nebraska School of Medicine. In 1933 he established his practice in Belle Fourche where he stayed until his death, except for service duty during World War II. Dr. Sherrill was a member of the Masonic Lodge and Naja Shrine Temple, the Lions Club, the American Legion, VFW, Black Hills District, State and American Medical Associations. He is survived by his widow; a son, Bruce, Torrance, California; and a daughter, Dianne, Omaha, Nebraska.



## MINUTES OF THE COUNCIL MEETING

11:00 a.m.  
Saturday, September 28, 1974

Ramada Inn  
Sioux Falls, South Dakota

The meeting was called to order at 11:00 a.m. by Bruce Lushbough, M.D., Chairman. Those present for roll call were Doctors R.E. Van Demark, G.E. Tracy, Fred Leigh, A.P. Reding, R.H. Quinn, John B. Gregg, T.H. Sattler, David Seaman, G. Robert Bartron, Bruce Lushbough, C.L. Swanson, David Buchanan, Harvard Lewis, B.J. Begley, Warren Jones, P.K. Aspaas, R.H. Harris, J.N. Hamm, R.G. Nemer, James Ryan and L.F. Nelson, representing the Whetstone Valley District. Also in attendance were Commission Chairmen, J.F. Barlow, M.D.; B.C. Gerber, M.D. and J.C. Larson, M.D. Student representatives in attendance were James Cassat, Larry Weitzenkamp, Frank Harding and Tom Huber. Other guests included Robert Hayes, M.D., State Health Officer, R.B. Leander, M.D., SoDaPAC secretary, Mr. Dave Gerdes, Association attorney, and Mr. Richard Erickson, president of South Dakota Blue Shield.

The Council dispensed with the reading of the minutes of the previous meeting inasmuch as they have been published.

Dr. James Larson, Chairman of the Commission of Scientific Medicine, reviewed the report of that commission for the Council's information.

### MINUTES OF THE MEETING OF THE COMMISSION ON SCIENTIFIC MEDICINE

9:30 a.m.  
September 7, 1974

Ramada Inn  
Sioux Falls, South Dakota

The meeting was called to order at 9:30 a.m. by James C. Larson, M.D., chairman. Present for roll call were Doctors James Larson, R.R. Thornton, B.T. Otey, G. Robert Bell, Joseph Kass, R.B. Leander, E.A. Schabauer, and student representative Larry Weitzenkamp. Also attending the meeting was Dr. Robert Van Demark, president of the State Medical Association.

Dr. Otey moved to dispense with the reading of the minutes of the previous meeting. The motion was seconded and carried.

The Commission discussed the Thermography program which is being carried out in South Dakota at the present time. Dr. Larson reviewed the background of this proposal and discussed the operation of the program at the present time. Inasmuch as the Council had directed the Commission to re-evaluate the program, an in-depth discussion on the methods of screening for breast cancer was held as well as the results which have been obtained to date. Approximately 3,800 women have been screened at this time. 160 biopsies have been recommended. Of the last 250 women screened, 6 mammographies have been recommended. Over 20,000 women have indicated an interest in participating in this program. Dr. Haberman has indicated that she definitely will not go into any area where she has not obtained the support of the physicians in that area. Previously, Dr. Haberman had recommended approximately 20% for mammography. There has been a definite change in priority as far as this procedure is concerned. Dr. Otey stressed that the program is a screening program to determine if thermography is a viable method of testing the population for breast cancer. The Commission discussed the question of whether or not the Association should endorse mass screening programs in the future. At the present time, there are 27 centers in the United States conducting thermography testing programs. The \$10 charge is used to defray the cost of operating the van and paying the technicians. The Commission requested that each District Medical Society be provided with a copy of the material which is provided each woman at the time the test is performed in the van and that the members of the Commission also be provided with this

sheet. Dr. Bell moved that the Commission recommend to the Council that the South Dakota State Medical Association agree to participate in this pilot study program to determine if there is sufficient evidence that this type of program would be of scientific benefit in the future. The motion was seconded and carried.

Dr. Larson reported on the Continuing Medical Education program in South Dakota. He indicated that the program is underway on a state-wide basis. Dr. Heinrichs has visited all twelve area hospitals, however, the programs are still being generated at the local level. The Apache Project has been disbanded at the present time due to lack of funds.

The Commission discussed scheduling of the Second House of Delegates at the annual Meeting. The Commission recommends to the Council that this meeting be rescheduled to begin at 10:30 a.m. on the third day of the annual meeting, or Sunday morning. This would be of benefit to physicians who wish to return home that Sunday.

The Commission then formulated the scientific program for the 1975 annual meeting which will be held May 30, 31, June 1, at the Downtown Holiday Inn, Sioux Falls. Dr. Leander moved that the Commission recommend to the Council that the same format as last year be followed again in 1975; that is three general sessions on Friday afternoon and concurrent workshops on Saturday morning. The Commission recommends the following schedule for approval by the Council:

#### Friday, May 30, 1975

- |                  |   |
|------------------|---|
| 1:30 - 2:15 p.m. | Report of the Current Status of the University of South Dakota School of Medicine Karl Wegner, M.D., Dean |
| 2:15 - 2:30 p.m. | Coffee Break  |
| 2:30 - 3:15 p.m. | Problem Oriented Medical Record Larry Weed, M.D., University of Vermont                                   |
| 3:15 - 4:00 p.m. | The Place of Laboratory Diagnosis in Clinical Medicine—John F. Barlow, M.D.                               |

#### Saturday, May 31, 1975 Concurrent Workshops

- |                    |  |
|--------------------|--|
| 9:00 - 10:00 a.m.  | (1) High Risk Pregnancy<br>(2) Office Dermatology—Priscilla Swanson, M.D.<br>(3) Medical Diagnosis   |
| 10:00 - 10:15 a.m. | (1) PSRO Discussion (Consultant from out-of-state)<br>(2) Problem Oriented Medical Record Larry Weed, M.D.<br>(3) Medical Oncology             |
| 11:15 - 12:15 p.m. | (1) PSRO Discussion—Repeat<br>(2) Problem Oriented Medical Record Larry Weed, M.D.<br>(3) Pediatric Surgical Emergencies Dr. Tielander (Wisc.) |

The meeting adjourned at 12:45 p.m.

Dr. Tracy moved that the Council accept the report of the Commission on Scientific Medicine. The motion was seconded by Dr. Harris and carried. A lengthy discussion ensued on the thermography screening program in South Dakota. Dr. Bartron moved that the Council of the South Dakota State Medical Association, in some way, the language of which is agreeable to the Council inform the female population of the

...that: 1) physicians are aware this program is going on in South Dakota 2) the State Medical Association has approved the program with certain guidelines established and 3) thermography as a screening procedure for breast cancer is presently being evaluated. The motion was seconded by Dr. Quinn and carried. Dr. Lushbough was directed to draw up a statement which would be available for the various district medical societies to publish in local newspapers at the appropriate time.

Dr. B.C. Gerber, Chairman of the Commission on Medical Service, reviewed the report of that commission for the Council's information.

#### **MINUTES OF THE MEETING OF COMMISSION ON MEDICAL SERVICE**

1:30 p.m.

Saturday, September 7, 1974

Ramada Inn

Sioux Falls, South Dakota

The meeting was called to order by Dr. B.C. Gerber, chairman of the Commission. Those present for roll call were Doctors B.C. Gerber, David Holzwarth, Roscoe Dean, Anthony Javurek, Curtis Wait, Anton Petres, John Hoskins, Warren Jones, Guy Tam and Howard Saylor, and student representative, James Cassat. Also in attendance were R.E. Van Demark, M.D. and John Dawson, M.D.

Dr. Saylor moved to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published. The motion was seconded by Dr. Tam and carried.

The Commission discussed problems relating to rural health in the state of South Dakota and possible areas in which the Rural Health Subcommittee may be of assistance to the Commission. The Commission discussed the physician assistant program and the effect this program has on the state, particularly in the delivery of health care to the rural areas. Dr. Jones indicated that he serves on a committee of the Medical School which is charged with establishing a curriculum for a physician assistant program, and that due to the ambiguity of the present Physician Assistant Law, that committee is unable to establish such a curriculum. Dr. Saylor moved that the Commission recommend that this matter be referred to the appropriate commission or committee which will make it their prime objective to immediately work on enabling legislation or the appropriate liaison necessary to provide implementation of rural health care and that if possible public health nurses or county nurses be considered as the appropriate individuals to supply this care. The motion was seconded by Dr. Dean and carried.

Mr. Johnson discussed the chiropractic problem in the state and stated that once again an amendment to the bylaws of the South Dakota High School Athletic Association will be introduced which will allow chiropractors to perform high school athletic physicals. He reported that Dr. G.E. Tracy spoke to the superintendents at their recent meeting concerning this proposal. He also urged all Commission members to contact their local superintendents or principals and urge them to vote against such an amendment. The executive office will send background information on chiropractic to each district so that physicians can contact each superintendent in the state concerning this problem.

Dr. John Dawson presented information concerning student health services for the state of South Dakota higher education institutions. He requested the State Medical Association's support for the following: (information to be handed out at Council meeting) Dr. Jones moved that the Commission recommend that the Association support Dr. Dawson and his problem to the point of recommending to the Board of Regents the improvement of student health services. The motion was seconded by Dr. Saylor and carried.

The Commission briefly discussed the request from the State Health Department for endorsement of the Emergency Services Plan. Dr. Saylor moved that the Commission recommend to the Council that the Association endorse the Emergency Health Services program. The motion was seconded by Dr. Tam and carried.

The Commission reviewed the uniform insurance form. Dr. Saylor moved that the Commission recommend to the Council that the Association endorse the adoption of the uniform insurance form. The motion was seconded by Dr. Holzwarth and carried.

The Commission reviewed the letter from Blue Cross concerning Blue Cross and Blue Shield coverage for diagnostic services. Dr. Saylor moved that the Commission reaffirm the Association position concerning this matter, which states that the State Medical Association urges non-discriminatory coverage of diagnostic procedures by Blue Cross and Blue Shield wherever they may be provided, be it in a physician's office, x-ray clinic or outpatient department of the hospital. The motion was seconded by Dr. Tam and carried.

The Commission considered the request from the Black Hills District concerning action to be taken inasmuch as a chiropractor was named to the Board of Western Health Systems as a provider member. It was the consensus of the Commission that physician members should not recognize chiropractors as health care providers and Dr. Gerber was instructed to contact Dr. Russell Harris, Councilor from the Black Hills District, and inform him of the Commission's opinion.

The meeting adjourned at 4:30 p.m.

Dr. Tracy moved that the Council accept the report of the Commission on Medical Service. The motion was seconded by Dr. Nemer and carried. A discussion was held concerning the appointment of the Rural Health Chairman, and a suggestion made that this physician be one from a rural area in South Dakota. Dr. John Dawson, Director of the University Health Service at South Dakota State University, Brookings, reviewed his proposal concerning college health in South Dakota for the Council's information. Dr. Tracy moved that the Council accept the report from Dr. Dawson and the Chairman of the Council appoint a chairman to head a committee to study college health in South Dakota as requested by Dr. Dawson and report back on the evaluation of this committee at a future Council meeting. The motion was seconded by Dr. Leigh and carried. The Council briefly reviewed the proposed uniform insurance form and the expanded use of computers in completing insurance forms.

Dr. John Barlow, Chairman of the Commission on Internal Affairs, Communications and Liaison, reviewed the report of that commission for the Council's information.

#### **MINUTES OF THE MEETING OF THE COMMISSION ON INTERNAL AFFAIRS COMMUNICATIONS AND LIAISON**

1:30 p.m.

Saturday, September 7, 1974

Ramada Inn

Sioux Falls, South Dakota

The meeting was called to order at 1:30 p.m. by John F. Barlow, M.D., chairman. Present for roll call were Doctors John F. Barlow, W.O. Hanson, Warren Golliher, R.E. Van Demark, C.B. Gwinn and R.E. Shaskey.

Dr. Gwinn moved to dispense with the reading of the minutes of the previous meeting. The motion was seconded and carried.

The Commission reviewed the August financial report and noted that the items "Office Supplies" and "Postage" are appearing to exceed the budgeted figure. All other items of expenditures are within the budget.

The Commission considered the South Dakota Journal of



Medicine and noted the directive of the House of Delegates that the feasibility of maintaining the Journal should be re-evaluated. The Commission recommended that the following statement should be presented to the Council regarding the South Dakota Journal of Medicine:

The Commission on Internal Affairs, Communications and Liaison has conducted an on-going study of the South Dakota Journal of Medicine and its value to the membership of the South Dakota State Medical Association. In the past two years the financial aspect of publication of the Journal has been one of decreased income and increased costs. However, the Commission feels that the Journal provides benefits to the Association which far outweigh the limited financial support which will be necessary to continue this program. The Journal provides an identity for the State Association which cannot be obtained in any other way. It is a tangible benefit of membership. All surveys of State Medical Association journals indicate that readership is high. The Journal provides the State Association president an opportunity to communicate with the members on a monthly basis. In coming years, with the development of the four year degree-granting medical school, the Journal will be of great value to the students and faculty members. The Journal provides South Dakota physicians an opportunity to publish scientific papers which would not be available, except in very limited ways, if the Journal was to cease publication. The Journal provides an avenue for editorial comment by all members and such comments are encouraged and welcomed at all times. The Journal provides a communications medium for news of members and publication of Association transactions such as Commission minutes, Council minutes, and annual meeting transactions. The cost of providing this information to the membership by mail is estimated to be at least \$2,000 per year in time, supplies and postage. The Journal provides salary subsidization for the Association of \$2,400 per year. This would mean the Association's general fund would have to pick up a minimum of \$4400 per year in expenses if the Journal were to be eliminated.

The Commission noted that other state journals in the area have been subsidized several years ago and the various Associations felt the expense was well justified. In view of these facts, the Commission recommends to the Council that the publication of the South Dakota Journal of Medicine be continued and that the general fund provide the deficit incurred which is estimated to be approximately \$3,000 this year. Costs are kept at an absolute minimum and every effort is to be made to keep expenses as near the actual income as possible.

The Commission reviewed a brochure received from the South Dakota School for the Deaf. Dr. Gollhofer moved that the Commission recommend to the Council that approval be given to the School for the Deaf to provide this brochure to physicians' offices in the State. The motion was seconded and carried.

The Commission discussed the situation presented by the Councilor from Rapid City, at the annual meeting concerning MEDCOR, Inc. and their efforts to have physicians in that area sign a form authorizing the substitution of generic drugs in prescriptions. Dr. Warren Jones presented his findings to the Commission and indicated that he had been informed that the effort to complete this program in Rapid City had failed and that he felt the matter was a "dead issue". He indicated that his effort was probably part of a drive to repeal the anti-substitution laws in South Dakota. The Pharmaceutical Association was not in favor of this move and was not involved in the MEDCOR matter. Dr. Gollhofer moved that the Commission recommend to the Council that physicians in South Dakota be advised not to sign such a form and that each physician should prescribe those drugs and in such manner as is in the best interest of each individual patient. The motion was seconded and carried.

The Commission reviewed a request from Blue Cross to provide a "White Paper" on hospital care and costs to the membership of the South Dakota State Medical Association. Dr. Shaskey moved that the Commission recommend to the Council that the State Association office obtain the necessary copies from Blue Cross and send it to each member of the South Dakota State Medical Association. The motion was seconded and carried, with one vote opposed.

The Commission reviewed a pamphlet which has been entitled "What To Do When the Doctor Dies." and published by the Texas Medical Association. The Commission recommended to the Council that the South Dakota State Medical Association publish a similar brochure and provide it to the membership. The Commission members felt the information contained in the brochure would be of definite value to physicians.

The Commission discussed the problem of chiropractic public information campaigns which are now being carried out in South Dakota and the fact that the chiropractors have again asked for authorization to perform high school physical athletic examinations. The Commission recommended that each District Medical Society should be kept informed of developments in this regard during the coming months; that each District Medical Society should encourage contacts with legislators and superintendents regarding the efforts of chiropractors to exceed their legal scope of practice and to legislatively provide for an expansion of their practice rights.

The Commission received a report from Dr. Robert Van Demark regarding his efforts to work with the Bar Association in establishing a malpractice panel. At the present time there has been no progress, and negotiations on this matter have ceased. No action was taken.

The Commission discussed a proposal from Blue Cross to increase the major medical coverage of the South Dakota State Medical Association group to \$250,000 from \$25,000 for a monthly premium increase of \$.30. This increase must be put into effect for the entire group or refused. The Commission recommended to the Council that approval of this increase be given for the State Medical Association group and that all enrollees of the program receive this increased benefit.

Members of the South Dakota Nurses' Association then met with the Commission to discuss subjects of mutual interest. Representing the Nurses' Association were Joyce Sugrue, Jane Morey and Jim Sorenson. Subjects discussed included the Joint Practice Commission, the new Nurse Practice Act, Physician's Assistants, and the expanded role of the nurse. They asked if the State Medical Association would endorse the efforts of the American Nurses' Association in promoting the expanded role of the nurse. The Commission requested that the South Dakota Nurses' Association submit a detailed statement concerning this requested endorsement, including definitions of "primary care" and the educational requirements which would be established. When such a written statement is received, the Commission indicated that consideration would be given to endorsement.

Communications between the Nurses' Association, Medical Association and Board of Nursing were discussed. Reactivation of the Joint Practice Commission was discussed. It was felt that continued liaison between the two groups would be of value.

The meeting adjourned at 4:00 p.m.

Dr. Leigh moved that the Council accept the report of the Commission on Internal Affairs, Communications and Liaison. The motion was seconded by Dr. Swanson and carried. Dr. Barlow reviewed the Journal financial situation and the Commission's recommendation that the Journal be subsidized if necessary.

Dr. Sattler briefly reviewed the activities of the Medical School with regard to establishing curriculum for the third and fourth years for the Council's information. Dr. Gregg



reported on the recruitment of department heads for the School. It was also reported that two students from the sophomore class were not placed in their third year to date.

Mr. Johnson discussed the report of the Commission on Legislation and Governmental Relations for the Council's information.

# MINUTES OF THE MEETING OF THE COMMISSION ON LEGISLATION AND GOVERNMENTAL RELATIONS

9:30 a.m.

Saturday, September 7, 1974

Ramada Inn

Sioux Falls, South Dakota

The meeting was called to order by Dr. Gere, chairman of the Commission. Those present for roll call were Doctors R.G. Gere, R.H. Hayes, Bill Church, L.W. Karlen, Patrick McGreevy, R.B. Henry, V. Janavs and R.W. Honke. Also in attendance were J.B. Gregg, M.D., R.E. Van Demark, M.D., Mrs. Bill Church and Congressman Denholm.

It was moved, seconded and carried to dispense with the reading of the minutes of the previous meeting inasmuch as they have been published.

Congressman Denholm discussed national legislation with the Commission members, with particular reference to a compromise national health bill. He indicated that his preference for a national health program would cover catastrophic and chronic illnesses and persons who are uninsurable. He stated that the Ways and Means Committee, chaired by Wilbur Mills, is working on a national health program, and he suggested that physicians contact the members of this committee and indicate their feelings and ideas concerning such legislation. He urged physicians to have more input into Congress rather than reacting to actions of Congress.

Dr. Gregg reviewed progress of the four year medical school for the Commission's information. He stated that to date three medical students have not been placed in a school for their final two years. He reported on the construction program undertaken by the Veterans Administration which will benefit the medical school and he also reported on the election of department heads for the school.

Mr. Johnson discussed the chiropractic problem in the state and stated that once again an amendment to the bylaws of the South Dakota High School Athletic Association will be introduced which will allow chiropractors to perform high school athletic physicals. He reported that Dr. G.E. Tracy spoke to the superintendents at their recent meeting concerning this proposal. He also urged all Commission members to contact their local superintendents or principals and urge them to vote against such an amendment. The executive office will send background information on chiropractic to each district so that physicians can contact each superintendent in the state concerning this problem. Mrs. Church requested that the executive office also furnish this information to the members of the Auxiliary. Mr. Johnson stated that the executive office will prepare a packet of information on chiropractic to be distributed to the legislators for their use during the 1975 legislative session.

The Commission reviewed acupuncture legislation from other states. Dr. Church moved that the State Medical Association have a bill on acupuncture drawn similar to that passed by the Oregon legislature and introduce this bill into the 1975 legislative session. The motion was seconded by Dr. Honke and carried.

The Commission reviewed the Disabled Physician Act submitted by the AMA. Dr. Henry moved that this bill be tabled for study and possible action next year. The motion was seconded by Dr. Karlen and carried.

Dr. Church reported on the activities of SoDaPAC for the Commission's information. He stated that SoDaPAC is supporting Representative Abdnor, Representative Denholm, Mr. Thorsness and Mr. Olson. He stated that a survey was

sent out to all candidates, and to date three replies have been received. AMPAC has contributed to the Thorsness campaign and has underwritten a survey for Thorsness, Abdnor and Denholm. He urged all physicians to join SoDaPAC and AMPAC and to contribute to those candidates who share medicine's viewpoint.

The Commission was apprised that during the last year there were more than 7,000 health related bills introduced into state legislatures throughout the country.

The Commission considered a request from Dr. Lampert concerning legislation which would permit physicians to give birth control information to minors without parental consent. The Commission directed Mr. Johnson to contact Dr. Lampert and inform him that it was the Commission's recommendation that legislation of this type not be introduced.

Dr. Hayes reviewed a proposed legislative program for 1975 for the Commission's consideration. He indicated that he believes legislation will be introduced concerning the physician assistant program to expand this program to counties in need. He requested that the Association propose legislation expanding the physician assistant program to the twenty counties in South Dakota without physician services and that the state or state and county underwrite the cost of such physician assistants when they do not pay their own way. No action was taken by the Commission to introduce such legislation. Dr. Hayes discussed state funding for the Renal Dialysis program. Dr. Honke moved that the Commission recommend to the Council that the Association support state funding of the Renal Dialysis program. The motion was seconded by Dr. Karlen and carried.

The Commission briefly discussed possible legislation for the Central Health Authority. Mr. Johnson indicated that the Governor's Health Conference will be held in Huron next week and this may be discussed at that time. The Commission determined to discuss this issue at a special Commission meeting which will probably be called in November or December.

Mr. Johnson informed the Commission that a bill to repeal legislation may be introduced into the legislature. He indicated that this was studied by the LRC this summer; however, LRC took no position. The Association is on record as opposing such legislation.

The meeting adjourned at 1:00 p.m.

Dr. Ryan moved that the Council accept the report of the Commission on Legislation and Governmental Relations. The motion was seconded by Dr. Begley and carried. A lengthy discussion ensued on the various problems involving chiropractic in the state of South Dakota. Dr. Begley moved that a task force to study and make recommendations concerning the various problems connected with chiropractic in the state of South Dakota be established. The motion was seconded by Dr. Hamm. Dr. Gregg moved that the motion be amended to state that a representative from each of the four Commissions be appointed to the task force. The motion was seconded by Dr. Buchanan and carried. Dr. Quinn moved that the motion be amended to state that decisions of the task force be referred to the Executive Committee for approval and that the task force meet within the next thirty days. The motion was seconded by Dr. Ryan and carried. The motion as amended was passed unanimously. Dr. Tracy moved that a representative of the State Medical Association appear at the meetings of the South Dakota High School Activities Association on October 2nd and indicate that physicians in South Dakota will perform physical examinations at a designated fee and that such physicals will be performed on an annual basis for all athletes, male and female. The motion was seconded by Dr. Bartron and carried. Dr. Hayes discussed a possible change in the Physician Assistant Law which may be introduced in the 1975 legislature. Dr. Nemer indicated that it is his feeling that a physician assistant is intended for the rural



areas and he has a proposed bill which may be introduced into the legislature limiting physician assistants to rural areas in need of health care. He indicated he would send a copy of his proposed bill to the executive office for consideration by the Commission on Legislation and Governmental Relations. Dr. Jones reported that he had been named to work with a committee on establishing a physician assistant program for the University of South Dakota Medical School. Dr. Jones indicated that with the law as it is, a physician assistant program cannot be established.

Dr. Van Demark briefly reported on the Governor's Conference on Health Care for the Council's information. He indicated that physicians should be prepared for legislation which will authorize a state Central Health Authority.

Mr. Dave Gerdes, attorney for the Association, appeared before the Council and discussed the Huron court case and the fees charged by his law firm for representation in that case. Dr. Swanson moved that the Council approve the fee of the law firm as charged with regard to the Huron court case. The motion was seconded by Dr. Buchanan and carried. Mr. Gerdes briefly outlined the services performed by his law firm on a year-round basis for the monthly retainer fee. He indicated that approximately 3-4 hours per month are spent on Association business by the law firm and during the legislative session the firm spends approximately 50-60 hours. Dr. Swanson moved that the Council approve the increase in monthly retainer from \$200 to \$250 for legal fees. The motion was seconded by Dr. Van Demark and carried. Dr. Quinn moved that further involvement by legal counsel with regard to the Huron court case be left to the discretion of the Executive Committee. The motion was seconded by Dr. Lewis and carried. Dr. Leigh reported on the status of the Huron court case and indicated that the transcripts have not yet been typed and made available to the parties involved.

Mr. Johnson reported on the activities of the Foundation for Medical Care. He stated that while the Foundation is in the planning stages no review will be carried on. However, an application for a conditional PSRO grant will be submitted in late October and if this is approved, some review will be done early next year. The Council recommended that if action is necessary with regard to the Foundation performing review prior to the next annual meeting, a special House of Delegates meeting be called to consider this matter. The Council received information concerning a salary to be paid to Mr. Johnson by the Foundation. Dr. Bartron moved that the Council approve remuneration to Mr. Johnson by the Foundation for Medical Care, such compensation to be determined by the Foundation Board. The motion was seconded by Dr. Tracy and carried.

The Council reviewed the letter from the AMA concerning the South Dakota State Medical Association's resolution on Indian Health Care.

Dr. Tracy gave an update on the Early Periodic Screening Program for the Council's information. He stated that the contract as proposed to the Council previously was accepted by the Welfare Department and that approximately 60-70 physicians have signed the contracts and filed them with the Welfare Department. The Council commended Dr. Tracy and Dr. Heinrichs for their work with this screening program.

Mr. Johnson briefly reported on the AMA clinical meeting to be held in Hawaii in 1975 and indicated that individuals should make their reservations early and that a special group rate would not be available.

Dr. Leander reported on the activities of SoDaPAC and requested financial assistance from the Association for administrative purposes. He stated that membership this year has doubled and that for the first time SoDaPAC is donating money to candidates for state office. Dr. Tracy moved that the Association donate \$500 to SoDaPAC. The motion was seconded by Dr. Buchanan and carried.

The Council considered nominations for alternate Councilor from the Whetstone Valley District. Dr. Leigh moved that Joseph Kass, M.D. be named alternate Councilor from the Whetstone Valley District. The motion was seconded by Dr. Aspaas and carried.

Dr. Leigh moved that Dr. G. Robert Bell be named alternate Councilor from the Huron District. The motion was seconded by Dr. Buchanan and carried.

Mr. Richard Erickson discussed outpatient and clinic diagnostic services for the Council's information. He indicated that Blue Shield cannot cover such services without a sizeable increase in premiums. Mr. Erickson also briefly reviewed the financial statement of South Dakota Blue Shield and explained their investment procedure. Mr. Erickson offered the assistance of Blue Shield to the Medical Association.

Dr. Jones reported that the School of Medicine at the University has not received grants this year from the Heart Association for research projects. The process of applying for and being accepted for such grants was explained for the Council's information, and it was noted that funds not granted this year will be held for future grant applications.

Mr. Johnson briefly reported on the status of Central Health Authority legislation and National Health Insurance legislation at the national level for the Council's information.

Mr. Johnson reported on malpractice insurance in South Dakota. He stated that Aetna Life and Casualty is cancelling coverage throughout the country and that St. Paul Fire and Marine will not write any new business but will continue with coverage for their present policyholders and group plans.

A discussion was held concerning the Department of Social Services and reimbursement made by the Department to physicians for services rendered to welfare recipients. Dr. Gregg moved that the executive secretary be instructed to communicate with the appropriate agency concerning the problems involved. The motion was seconded by Dr. Quinn and carried.

Mr. Johnson read a report from the State Utilization and Insurance Review Committee stating that an attending physician be allowed to add a charge of one unit for the drawing of blood on a blood panel, and that a relative value of 30 units for a saline suction and dilatation and curettage if necessary for a therapeutic abortion be allowed and a relative value of 25 units for a suction curettage and dilatation be allowed. This was submitted for the Council's information.

Mr. Johnson announced that the Relative Value Study Committee is meeting on October 2, and hopefully revisions will be completed at the meeting and a new Relative Value Study adopted for the state of South Dakota.

Mr. Johnson announced that the deadline for submitting resolutions for the AMA clinical meeting in Portland in late November, early December, is October 31.

Dr. Harris discussed a news article which appeared in the Rapid City paper concerning the availability of health care in the state of South Dakota and several quotes by Dr. Hayes. Dr. Hayes explained the remarks made and the fact that many of the quotes were not his but quotes which he used in his speech.

Dr. Bartron reported that plans for the Dakota Dome at the University of South Dakota are progressing and that physicians may contribute if they wish.

Dr. Begley stated that Wilfred Hage, M.D. has moved back to Sioux Falls and is totally incapacitated. Dr. Begley moved that the Council grant honorary life membership in the State Medical Association to Dr. Hage. The motion was seconded by Dr. Tracy and carried. The Council also requested that the appropriate members of the Benevolent Fund review Dr. Hage's situation and take appropriate action. Dr. Begley moved that this matter be referred to the Commission on Internal Affairs, Communications and

Liaison which administers the Benevolent Fund for the appropriate study and recommendation. The motion was seconded by Dr. Tracy and carried.

The meeting adjourned at 5:15 p.m.

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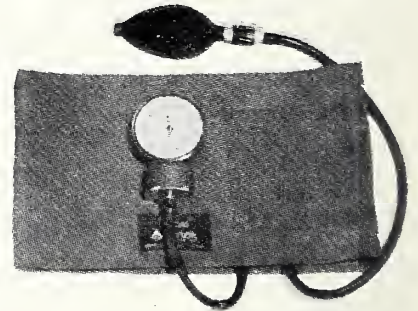
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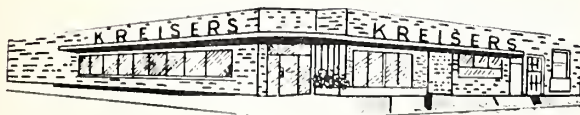
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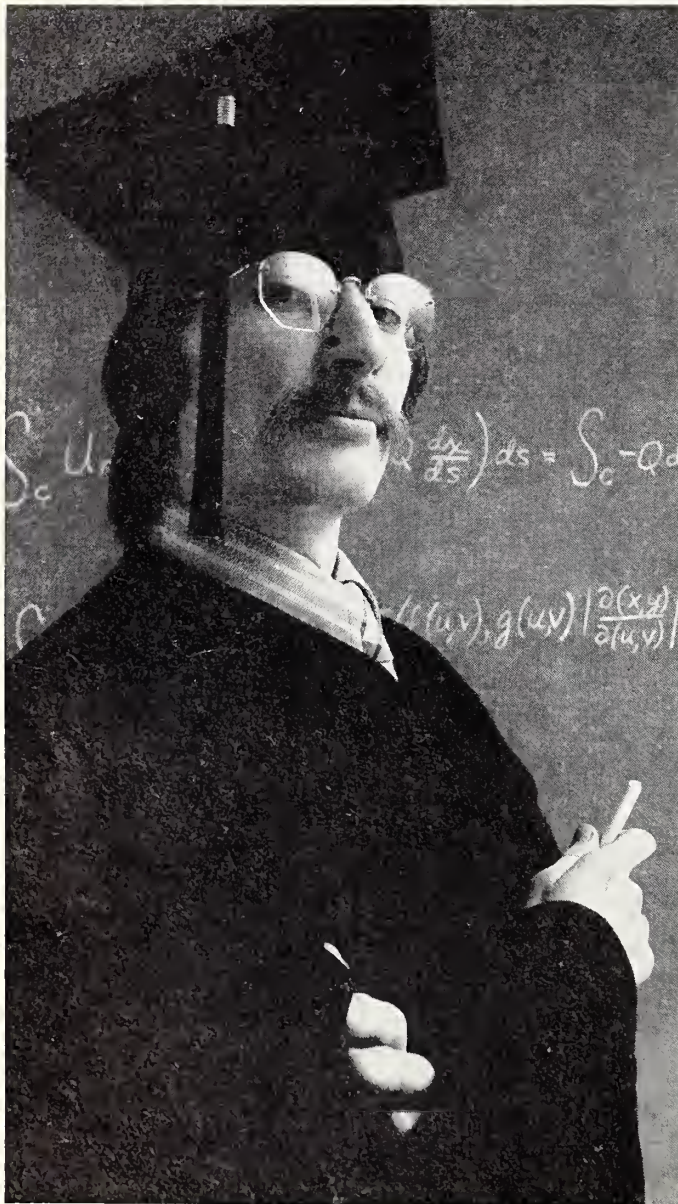
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